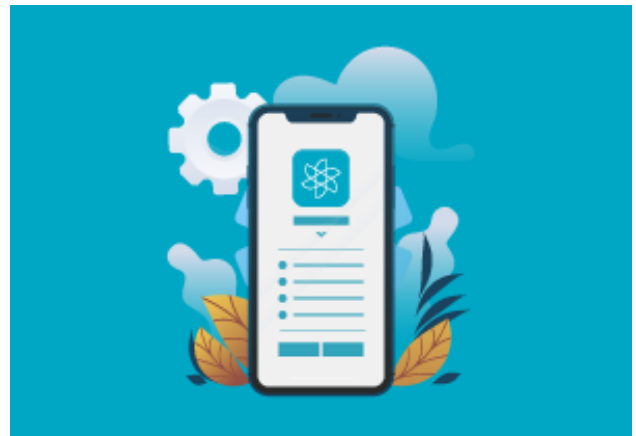


## APP PUBLISHING IN TEST MODE (React Native)



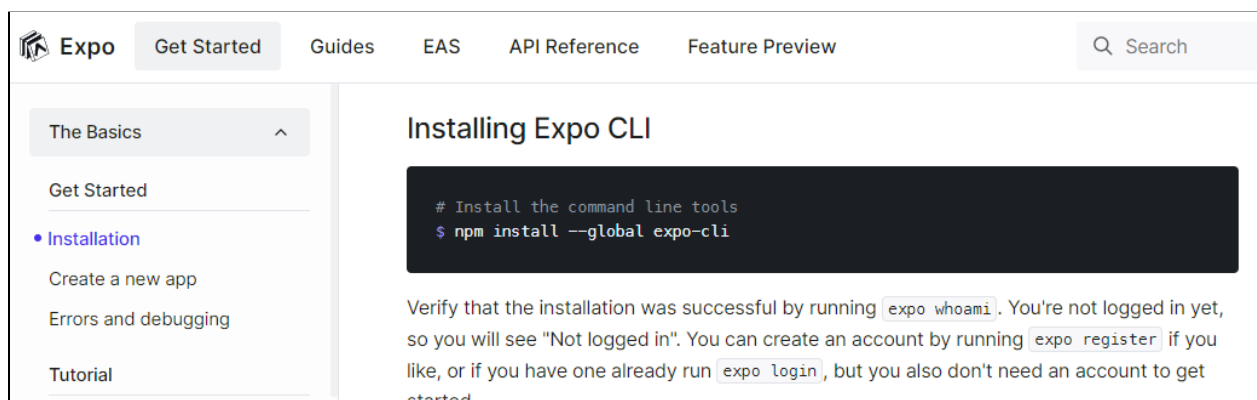
### What is our GOAL for this MODULE?

How to generate an IPA file which can be published on the App Store.

### Steps:

#### ACTIVITY 1: Installing node expo

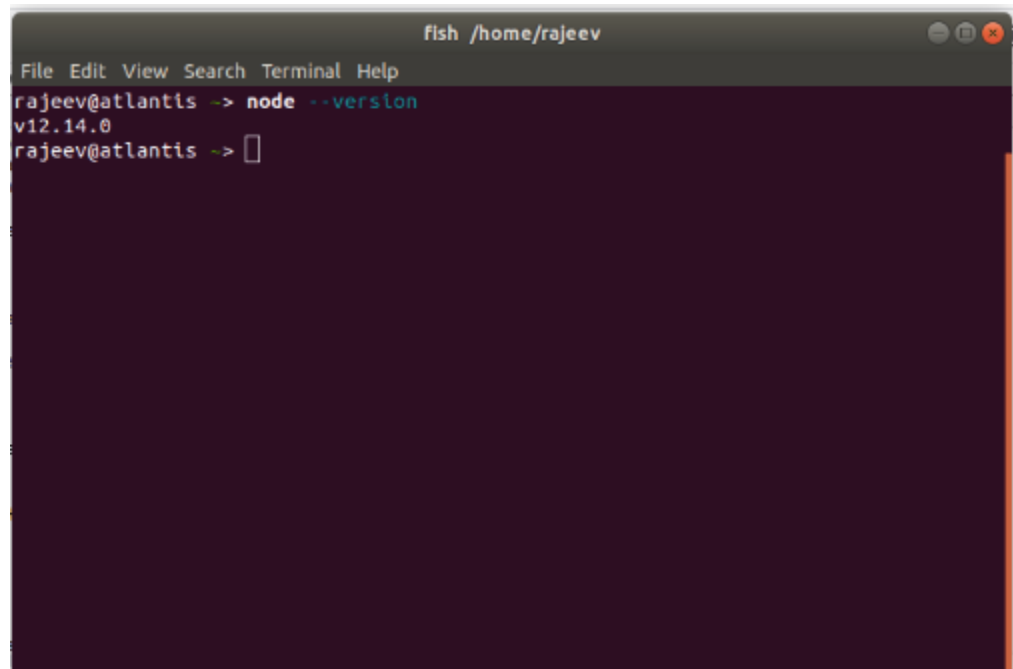
Follow the instructions given in Expo documentation on its [website](#) to first install expo on our local machine.



1. Install **node.js** on the system. Node allows us to run javascript outside our browser as well.

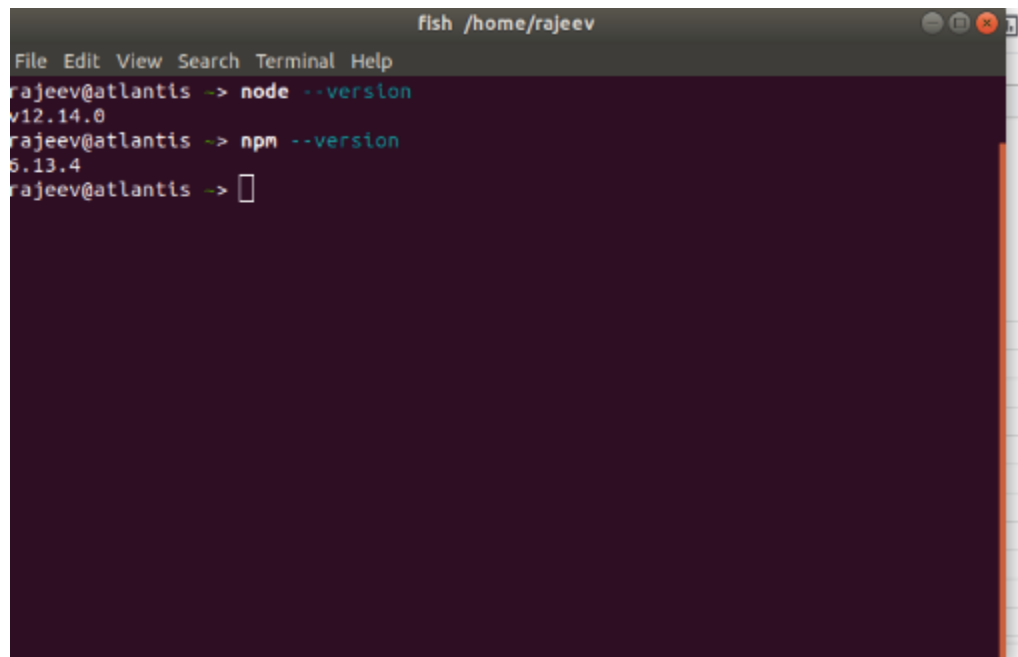
- For Windows users:

- Download node directly from the given link.
- Unzip the file.
- Run the executable inside it (exe) file to install node.
- To check if the node was installed properly, open **cmd** and type **node --version**: It should show the node version which was installed.
- For Mac users:
  - Install **homebrew** first. Homebrew is a package manager for your operating system. It helps you in easily installing programs from the terminal.
  - To install homebrew, open your terminal and type:  
ruby -e "\$(curl -fsSL  
<https://raw.githubusercontent.com/Homebrew/install/master/install>)"
  - \*Note: You might have to add "sudo" before the command if you do not have permission to install packages on your OS. "sudo" stands for "do as a super user". You might have to run:  
sudo ruby -e "\$(curl -fsSL  
<https://raw.githubusercontent.com/Homebrew/install/master/install>)"
  - Now install node.
  - On your terminal type: sudo brew install node.
  - Check if node is installed on your system by typing in the terminal:  
**node --version**
- For Ubuntu users:
  - Open your terminal and type: **sudo apt install node**
  - This will install a node on your system.
  - Check the node installation by typing:  
**node --version**



```
fish /home/rajeev
File Edit View Search Terminal Help
rajeev@atlantis ~-> node --version
v12.14.0
rajeev@atlantis ~-> 
```

- When you install a node, npm also gets installed. 'npm' stands for '**node package manager**'.
- All the libraries that we used in snack including react, react-native, firebase, react-navigation, they all come as node packages. 'npm' helps us in installing and maintaining these packages.
- You can quickly check for 'npm' installation using: `npm --version`.



```
fish /home/rajeev
File Edit View Search Terminal Help
rajeev@atlantis -> node --version
v12.14.0
rajeev@atlantis -> npm --version
6.13.4
rajeev@atlantis -> 
```

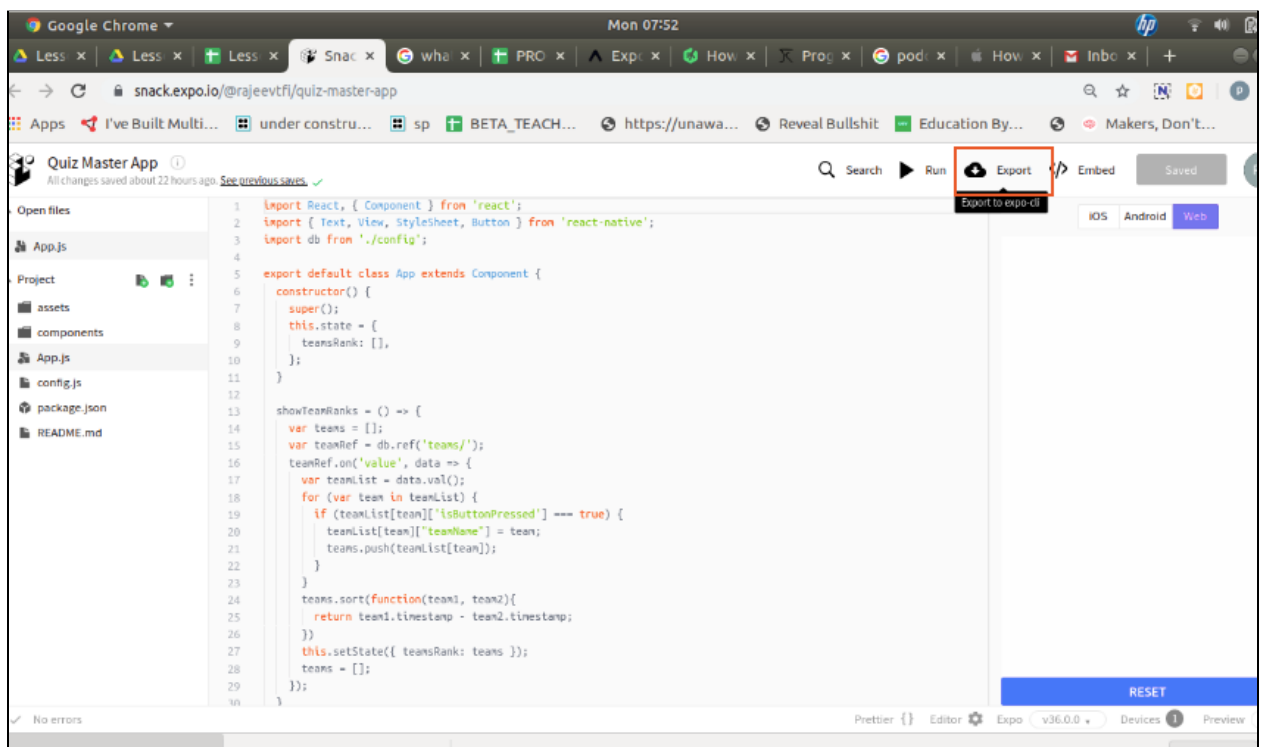
2. Now we will be using npm to install the expo command-line tool.
  - Expo command-line tool or '**expo-cli**' comes with many libraries and tools already installed which help us in quickly getting started with building react native apps.
  - To install 'expo-cli', on your terminal type: **npm install expo-cli --global**
    - The "global" tag installs expo with a global scope. This means you can use expo anywhere on your system. Without a global tag, the expo will be installed only in the folder in which you are running the command.

## ACTIVITY -2: Running app in local server

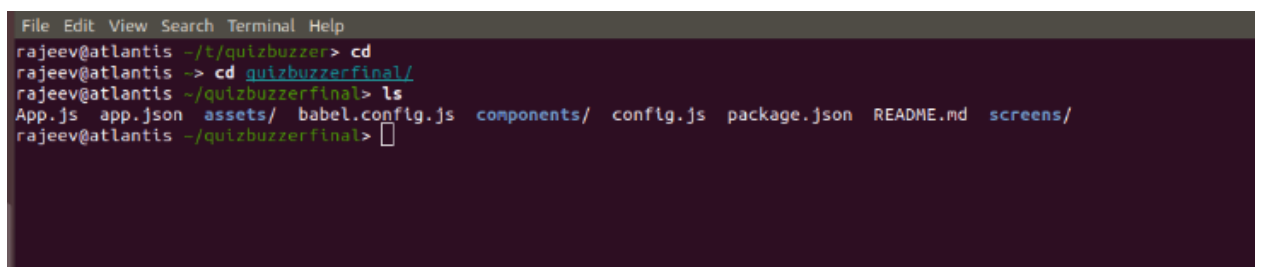
An IPA file can be installed on the phones and tested or published on the App Store.

If the app is created on **expo.io**

1. Export the files.



2. Extract the downloaded files into a folder of your choice. Now, open your terminal again and navigate to the folder where you extracted the files.



3. To navigate to different folders on your computer using the terminal use **cd** command.
  - 'cd' stands for 'change directory'.
4. Now type '**ls**' to list all the files inside the folder. You should be able to see all the files and folders you have created on expo snack.
5. Now we need to install all the packages we had used in our app on our local machine.
  - React, react-native, react-navigation, firebase, etc. packages are listed inside '**package.json**'.
  - To install all the packages in 'package.json', we just need to type: **sudo npm install** or **npm install**.
  - '**npm**' will look into the 'package.json' file and install all the packages needed for our project.

```
File Edit View Search Terminal Help
rajeev@atlantis ~/t/quizbuzzer> cd
rajeev@atlantis -> cd quizbuzzerfinal/
rajeev@atlantis ~/quizbuzzerfinal> ls
App.js app.json assets/ babel.config.js components/ config.js package.json README.md screens/
rajeev@atlantis ~/quizbuzzerfinal> pwd
/home/rajeev/quizbuzzerfinal
rajeev@atlantis ~/quizbuzzerfinal> sudo npm install
npm WARN deprecated core-js@1.2.7: core-js@<3 is no longer maintained and not recommended for usage due to the number of issues. Please, upgrade your dependencies to the actual version of core-js@3.
[ ] .....] / fetchMetadata: still pacote range manifest for p-limit@^1.1.0 fetched in 187ms
```

6. Now that all our packages are installed, quickly test if our application is installed correctly.
  - You can type: **sudo expo start** or **expo start**
  - This will start your project. It will generate a **QR code**. You can scan the QR code on an **expo client** installed on your phone to open the app.

\*Note: Your computer and your phone must be connected to the same network for this to work.

```
File Edit View Search Terminal Help
rajeev@atlantis ~/quizbuzzerfinal> sudo expo start

There is a new version of expo-cli available (3.11.3).
You are currently using expo-cli 3.9.1
Install expo-cli globally using the package manager of your choice; for example: `npm install -g expo-cli`

Starting project at /home/rajeev/quizbuzzerfinal
Expo DevTools is running at http://localhost:19002
Opening DevTools in the browser... (press shift-d to disable)
(node:28565) [DEP0066] DeprecationWarning: OutgoingMessage.prototype._headers is deprecated
Starting Metro Bundler on port 19001.
```

```
File Edit View Search Terminal Help

To run the app with live reloading, choose one of:
• Sign in as @rajeevtfl in Expo Client on Android or iOS. Your projects will automatically sync.
• Scan the QR code above with the Expo app (Android) or the Camera app (iOS).
• Press a for Android emulator.
• Press e to send a link to your phone with email.

Expo Press ? to show a list of all available commands.
Logs for your project will appear below. Press Ctrl+C to exit.
```

- We can change the code inside and the app will change live on our phone!
- This means that you can code and test your app on the phone at the same time. It will also show warnings and errors.

### ACTIVITY 3: How to build IPA files

1. Before building the ipa, we need to add a unique identifier for the App **Store** to remember our app with.
  - This is done using the reverse web domain name inside **app.json** file- since each user's web domain will be different and unique and different. You can use any dummy domain name for now.
2. Now press **Ctrl + C (Command + C for Mac)** to stop the metro bundler you ran using **expo start**.
3. In the same folder, run the following commands:
  - For building IPA, run the command - **sudo expo build:ios**

\*Note 1: If you get an error like **"unable to resolve react-native-gesture handler."**

This means that the above library did not get correctly installed.

Run - **sudo npm install react-native-gesture-handler** or **npm install react-native-gesture-handler**

This will install the above package. And then you can run build commands again.

\*Note 2: For ios build, you will need an **apple id and password** for your paid developer account. It will authenticate the developer account. If you already do not have one, you have to create a paid developer account for this purpose.

\*Note 3: Expo builds IPA on a shared server machine. The build will fail if one of the expo's server machines is not available for building.



```

() app.json x
home > rajeev > quizbuzzerfinal > () app.json > ...
1
2  "expo": {
3    "name": "QuizBuzzer",
4    "description": "No description",
5    "slug": "snack-ec4d012b-6a11-4113-8661-f141246ab09e",
6    "privacy": "unlisted",
7    "sdkVersion": "36.0.0",
8    "version": "1.0.0",
9    "orientation": "portrait",
10   "primaryColor": "#cccccc",
11   "icon": "./assets/icon.png",
12   "loading": {
13     "icon": ".assets/icon.png",
14     "hideExponentText": false
15   },
16   "android": {
17     "package": "com.testuser.quizbuzzer"
18   },
19   "packagerOpts": {
20     "assetExts": [
21       "ttf",
22       "mp4",
23       "otf",
24       "xml"
25     ]
26   },
27   "ios": {
28     "supportsTablet": true,
29     "bundleIdentifier": "com.testuser.quizbuzzer"
30   }
31 }
  
```

```

$ expo build:ios
[16:44:37] Checking if current build exists...

[16:44:37] No currently active or previous builds for this project.
[16:44:37]
We need your Apple ID/password to manage certificates, keys
and provisioning profiles from your Apple Developer account.

Note: Expo does not keep your Apple ID or your Apple ID password.

? What's your Apple ID? xxx@yyy.zzz
? Password? [hidden]
✓ Authenticated with Apple Developer Portal successfully!
[16:44:46] You have 4 teams associated with your account
? Which team would you like to use? 3) ABCDEFGHIJ "John Turtle" (Individual)
✓ Ensured App ID exists on Apple Developer Portal!
[16:44:59] We do not have some credentials for you: Apple Distribution Certificate, Apple Push Notifications service key, Apple Provisioning Profile
? How would you like to upload your credentials? (Use arrow keys)
> Expo handles all credentials, you can still provide overrides
  I will provide all the credentials and files needed, Expo does limited validation
  
```

- The build command takes a while. You can visit the build link given in the terminal to see the progress. Once the build is finished, you can download the IPA directly from there.

```
sudo /home/rajeev/quizbuzzerfinal
File Edit View Search Terminal Help
Warning: Your project may contain unoptimized image assets. Smaller image sizes can improve app performance.
To compress the images in your project, abort publishing and run npx expo-optimize.
Unable to find an existing Expo CLI instance for this directory, starting a new one...
(node:30009) [DEP0066] DeprecationWarning: OutgoingMessage.prototype._headers is deprecated
Starting Metro Bundler on port 19001.
Tunnel ready.
Publishing to channel 'default'...
Building iOS bundle
Building Android bundle
Building JavaScript bundle [=====] 100%
  building JavaScript bundle in 70356ms.
Analyzing assets
Building JavaScript bundle [=====] 100%
  building JavaScript bundle in 78795ms.
Finished building JavaScript bundle in 1924ms.
Uploading assets
Building JavaScript bundle [=====] 100%
  building JavaScript bundle in 1743ms.
No assets changed, skipped.
Uploading JavaScript bundles
Published
Your URL is

https://exp.host/@rajeevtfi/snack-ec4d012b-6a11-4113-8661-f141246ab09e

> Closing Expo server
> Stopping Metro bundler
Checking if this build already exists...

Build started, it may take a few minutes to complete.
You can check the queue length at https://expo.io/turtle-status

You can monitor the build at

https://expo.io/builds/b1f2f085-8a3e-4c06-a29f-e86e68ebce26

Waiting for build to complete. You can press Ctrl+C to exit.
* Build in progress...
```

5. After some time, you can see the link of the IPA file. You can click on it to download and install it.

```
File Edit View Search Terminal Help
Unable to find an existing Expo CLI instance for this directory, starting a new one...
(node:30009) [DEP0066] DeprecationWarning: OutgoingMessage.prototype._headers is deprecated
Starting Metro Bundler on port 19001.
Tunnel ready.
Publishing to channel 'default'...
Building iOS bundle
Building Android bundle
Building JavaScript bundle [=====] 100%
  building JavaScript bundle in 70356ms.
Analyzing assets
Building JavaScript bundle [=====] 100%
  building JavaScript bundle in 78795ms.
Finished building JavaScript bundle in 1924ms.
Uploading assets
Building JavaScript bundle [=====] 100%
  building JavaScript bundle in 1743ms.
No assets changed, skipped.
Uploading JavaScript bundles
Published
Your URL is

https://exp.host/@rajeevtfi/snack-ec4d012b-6a11-4113-8661-f141246ab09e

> Closing Expo server
> Stopping Metro bundler
Checking if this build already exists...

Build started, it may take a few minutes to complete.
You can check the queue length at https://expo.io/turtle-status

You can monitor the build at

https://expo.io/builds/b1f2f085-8a3e-4c06-a29f-e86e68ebce26

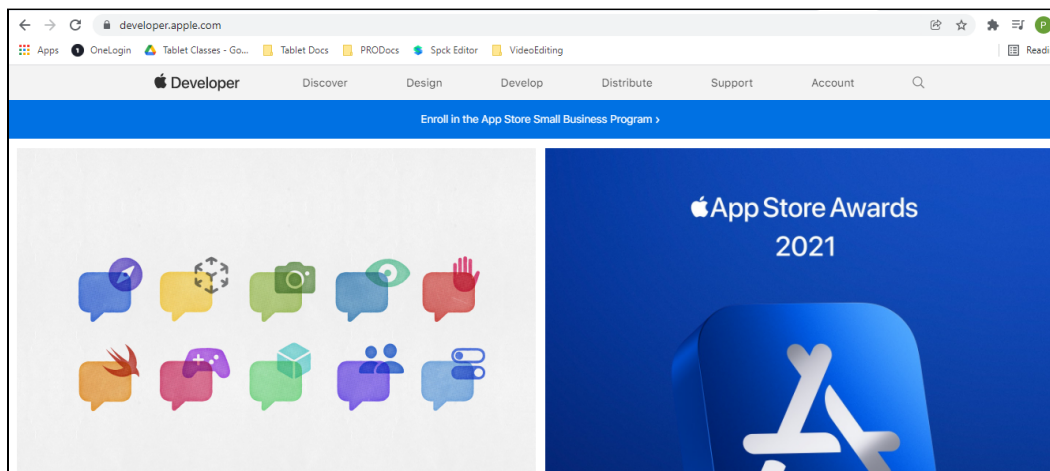
Waiting for build to complete. You can press Ctrl+C to exit.
✓ Build finished.
Successfully built standalone app: https://expo.io/artifacts/6e805551-e84f-43b7-8d52-a944c7fdb0e6
rajeev@atlantis ~/quizbuzzerfinal>
```

Now that you have expo installed, you can also write react native code on your local machine and test them on your phone.

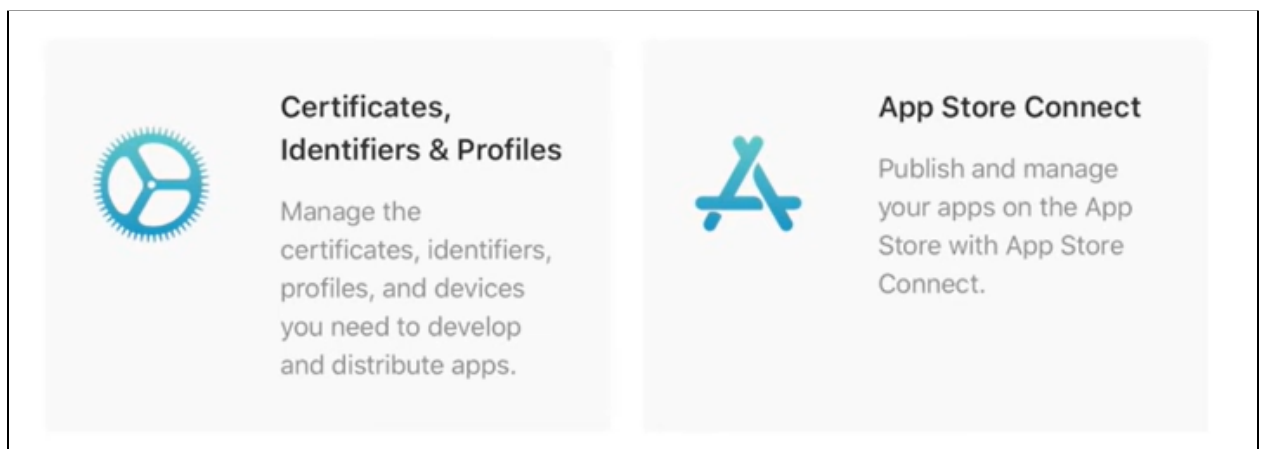
### ACTIVITY 4: Release the app on the App store in test flight mode

In the App store Test Flight is the mode where you can test your app on an iPhone device. In the following steps we are going to release our app on the App store in test mode.

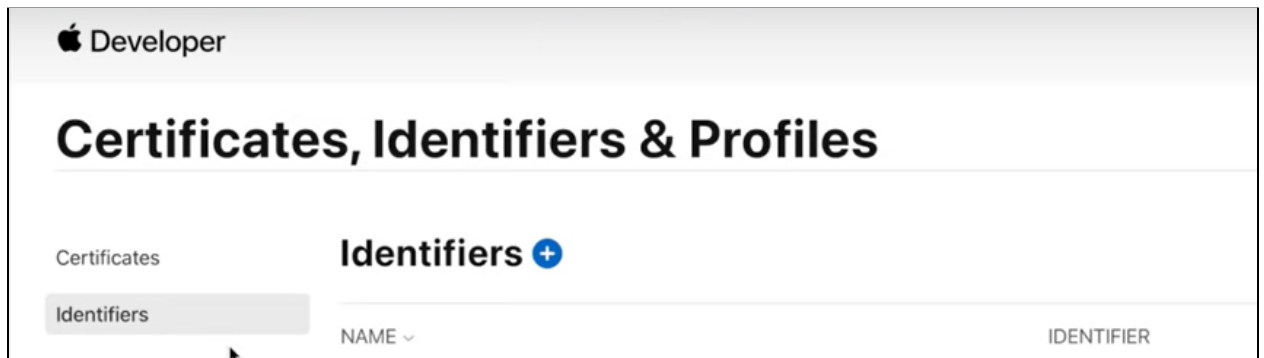
1. Sign in into <https://developer.apple.com/>



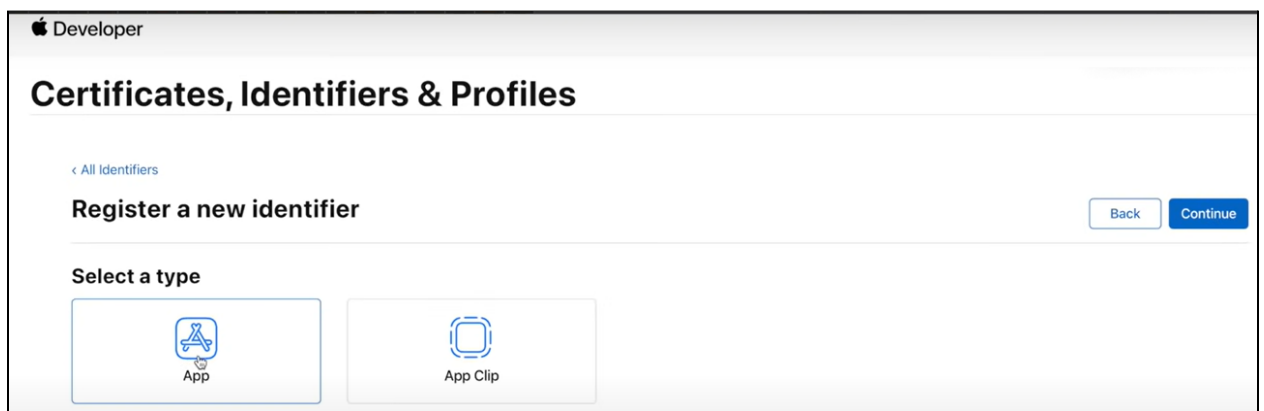
2. Click on Certificates, Identifiers and Profiles.



3. Now click on Identifiers. Click on the + button next to Identifiers.



4. Click on **App** and click on **Continue**.



5. Enter a Description and Bundle ID
  - a. The BundleID is available in your **Project > app.json > bundleIdentifier ( Under the ios feild )**. This should be unique so that it can identify your App.

## Certificates, Identifiers & Profiles

[< All Identifiers](#)

### Register an App ID

<b>Platform</b> iOS, macOS, tvOS, watchOS	<b>App ID Prefix</b> ABC123 (Team ID)
<b>Description</b> <input type="text"/> <small>You cannot use special characters such as @, &amp;, *, ' ', ", -, .</small>	<b>Bundle ID</b> <input checked="" type="radio"/> Explicit <input type="radio"/> Wildcard <input type="text"/> <small>We recommend using a reverse-domain name style string (i.e., com.domainname.appname). It cannot contain an asterisk (*).</small>

### Capabilities

ENABLED	NAME
---------	------

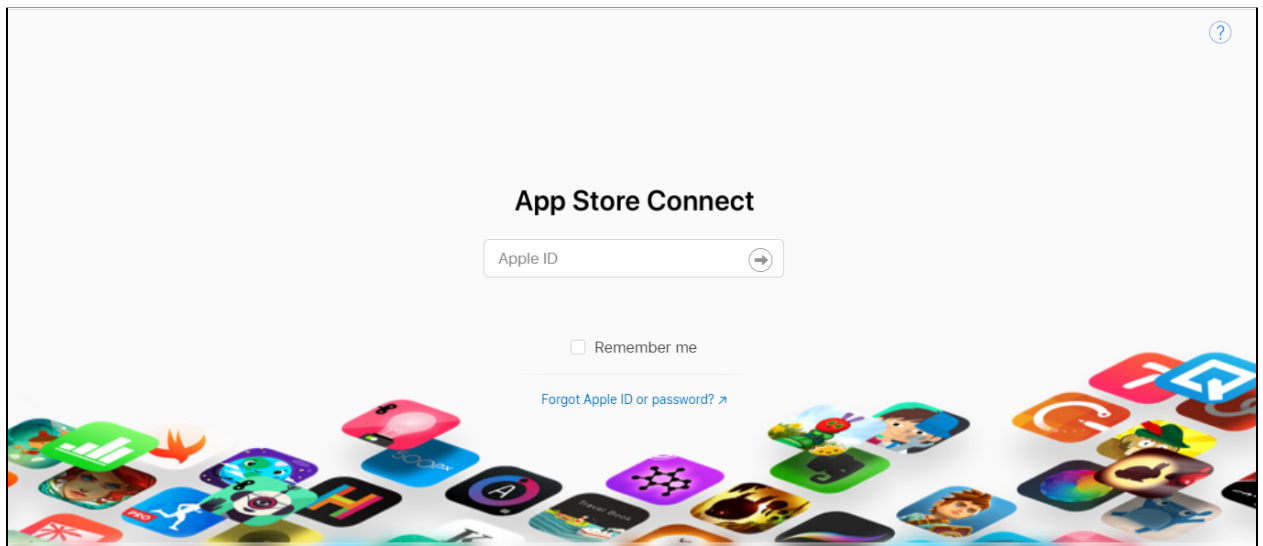
- Click on Confirm after verifying Description, AppleID and Bundle ID

### Confirm your App ID

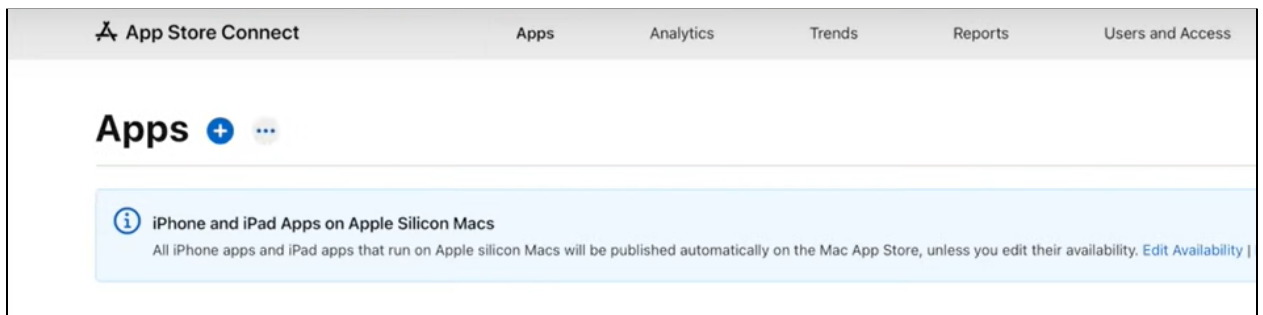
[Back](#)
[Register](#)

<b>Platform</b> iOS, macOS, tvOS, watchOS	<b>App ID Prefix</b> (Team ID)
<b>Description</b> <input type="text"/>	<b>Bundle ID</b> <input type="text"/>

- You will be able to see the Name and Identifier that you created.
- Now Login into AppStore Connect <https://appstoreconnect.apple.com/login>



9. Click on MyApps and click on the **+** button > **New App** and
  - a. Enter the details in the pop up.
  - b. Make sure you select the correct BundleID from the list.
  - c. Enter a unique value for SKU
  - d. Click on **Create**



## New App

Platforms ?

☒ iOS ☐ macOS ☐ tvOS

Name ?

30

Primary Language ?

Choose ▼

Bundle ID ?

Choose ▼

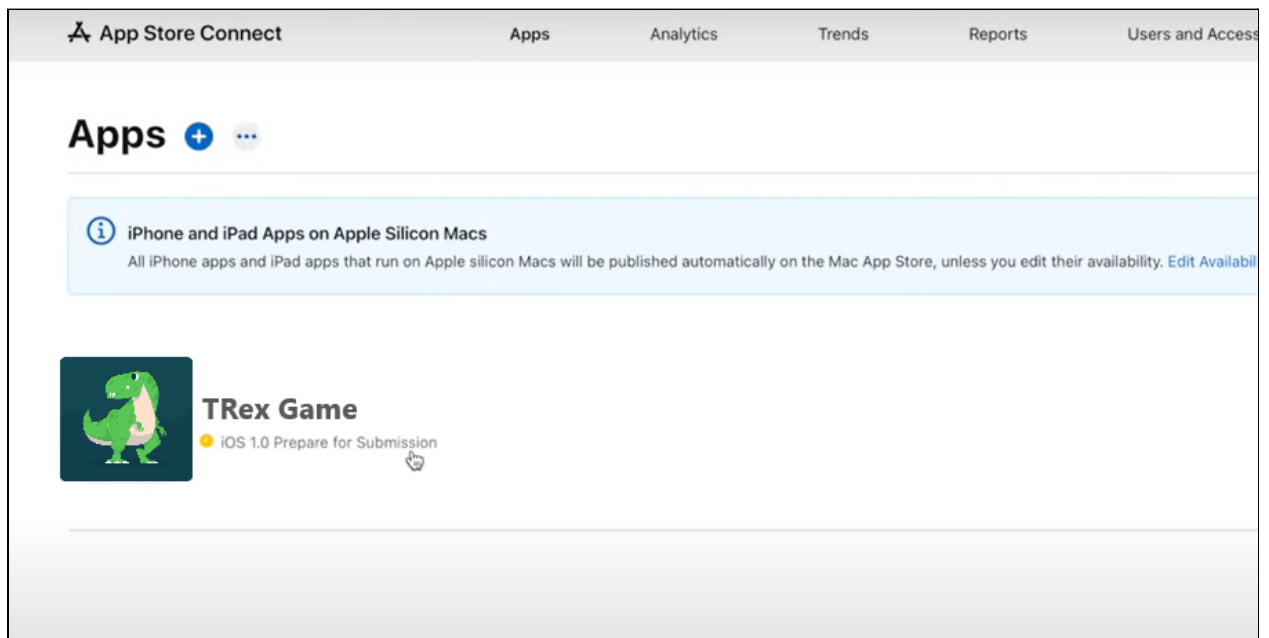
Register a new bundle ID in [Certificates, Identifiers & Profiles](#).

SKU ?

User Access ?

[Cancel](#) [Create](#)

10.You will see your App listed under the App section.

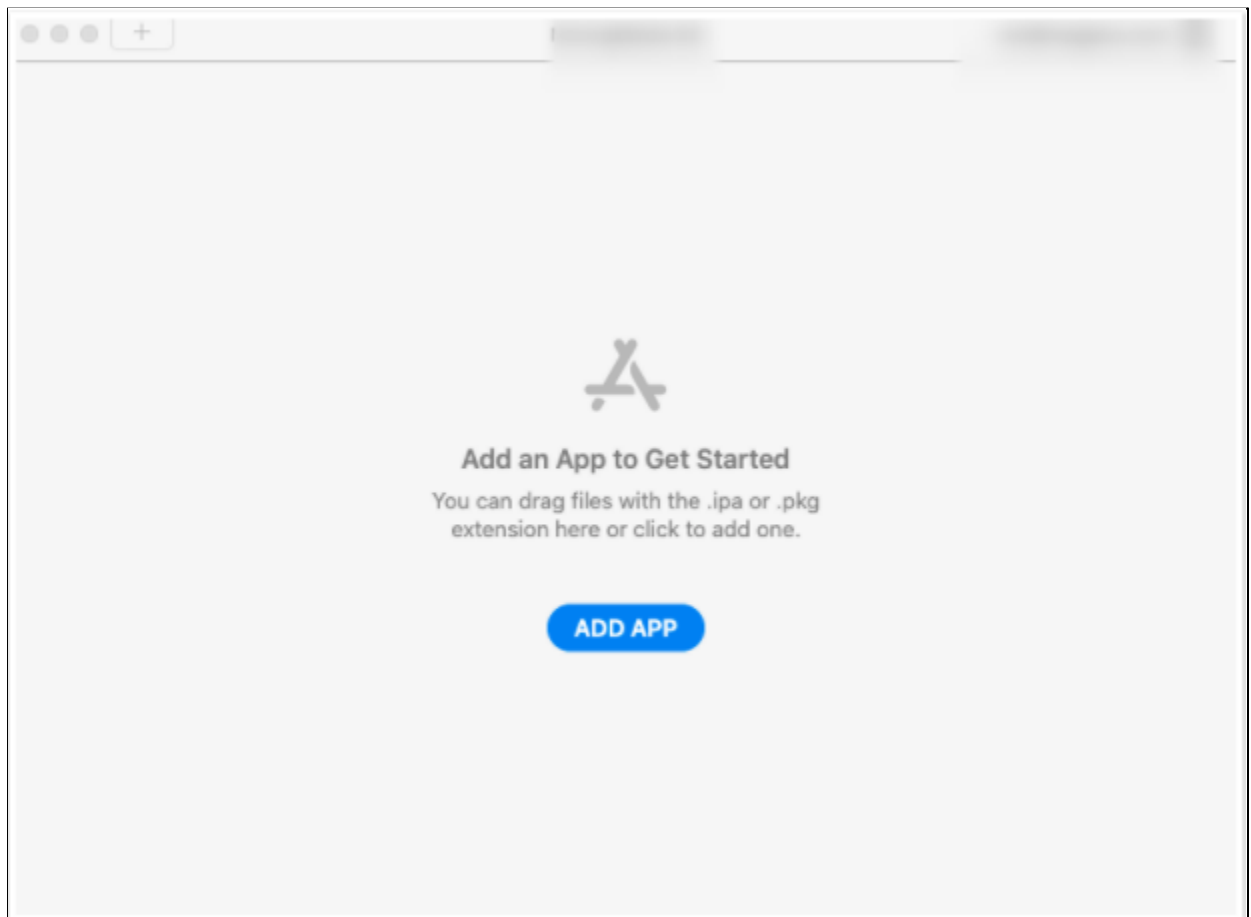


11. Now it is time to upload the build that we created. We will use a Transporter to publish the App on the Appstore. Transporter is an Apple tool to help you prepare your apps for Apple's App Store. It takes app builds and uploads them to the AppStore.
12. To upload a build with Transporter App, launch the application on your machine and login to iTunes Connect.

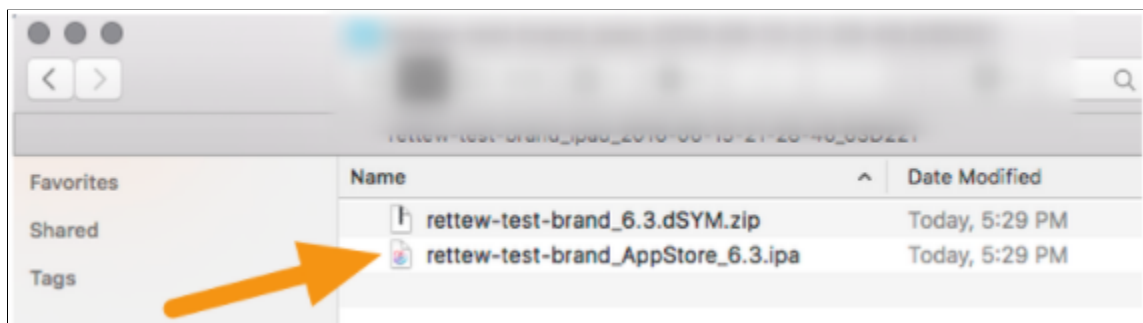


13. Click on the Add app labeled "Deliver Your App"

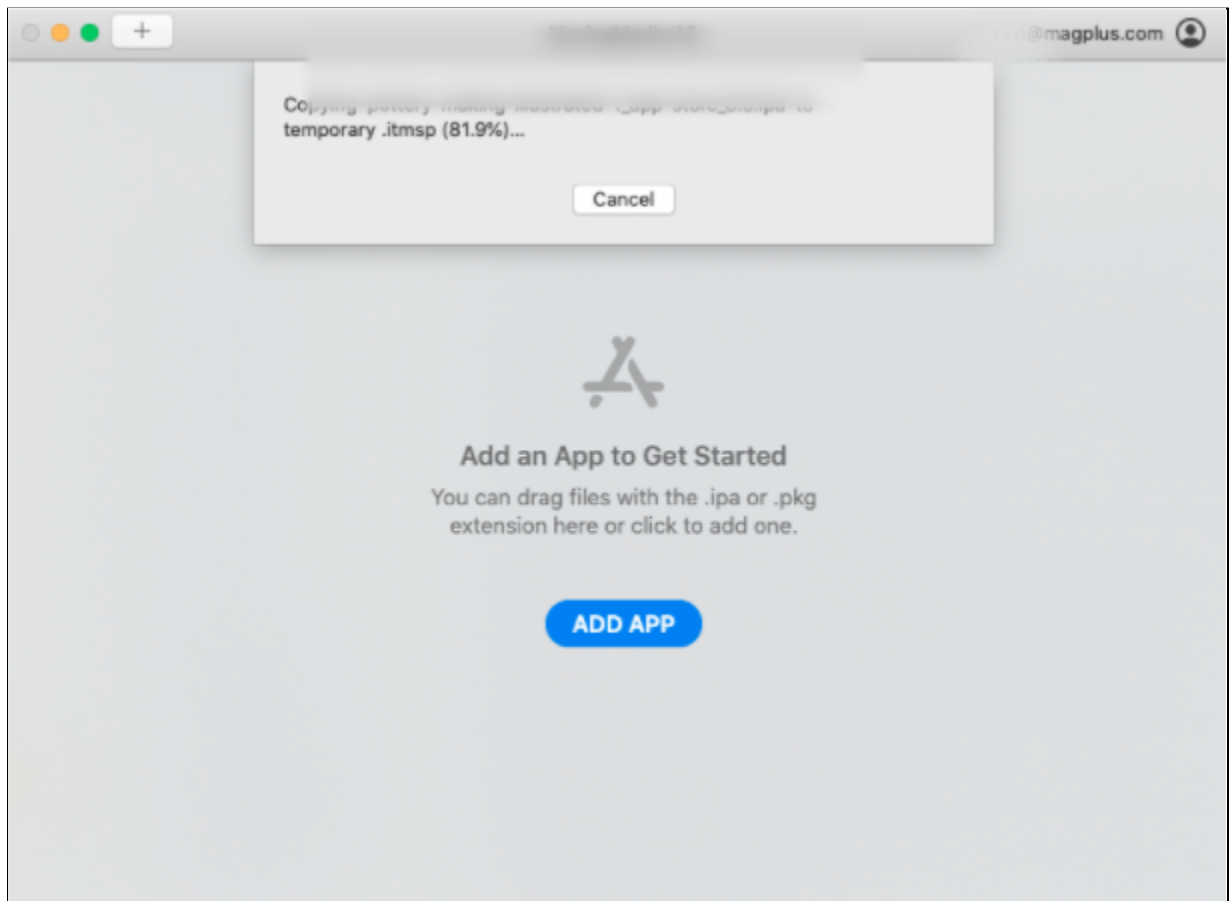


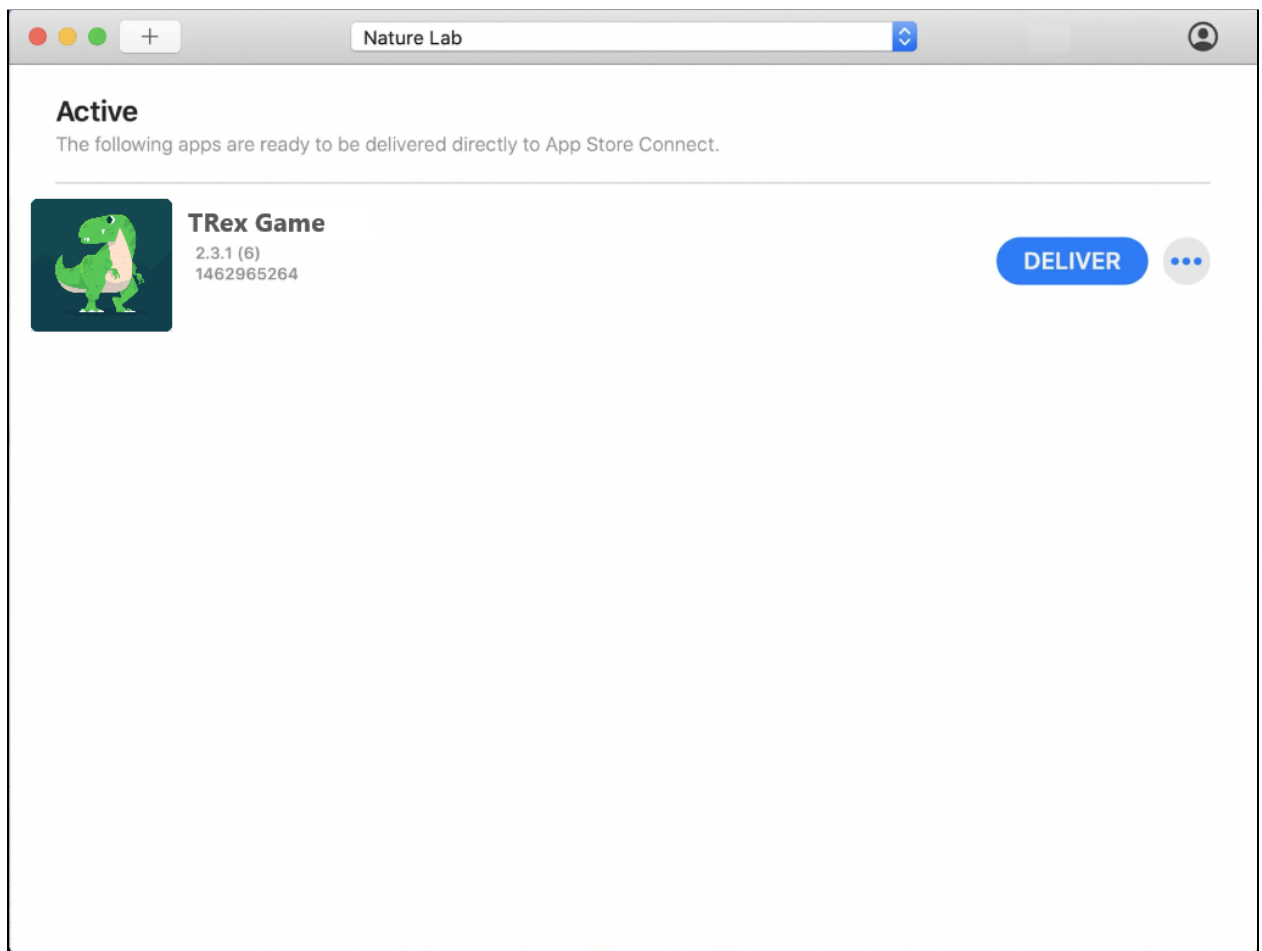


14. Select the "AppStore\_x.x.ipa" file from the ".tgz" file that you downloaded from the mag+ Publish Portal.



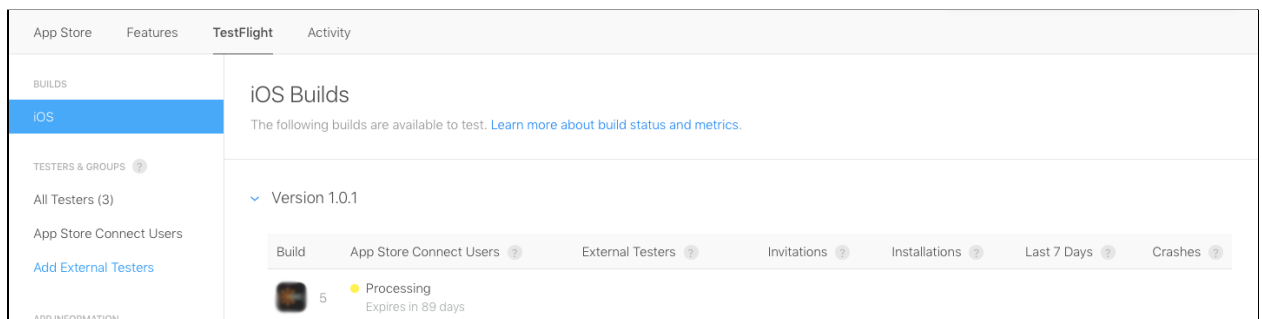
15. Now you will see a progress bar that will show the progress of your upload. Once complete, your build will be listed under your app in iTunes Connect.



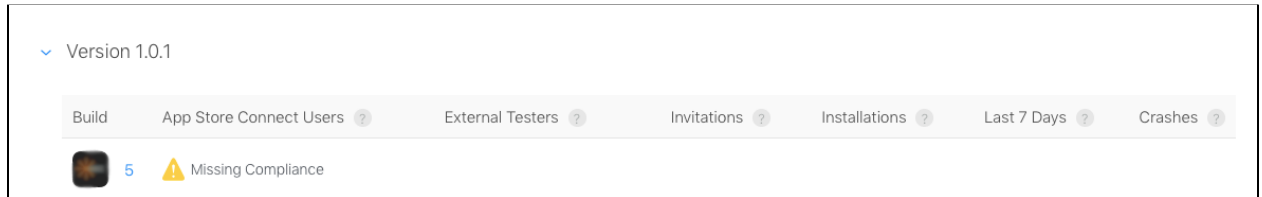


16. Click on **TestFlights**

17. Once your app is uploaded on test flight after that login to your app store account and click My Apps and navigate to your app → Test Flight and here you will see your app with processing tag.



18. Once the processing is complete then you will see a warning icon like mentioned in image click on this icon and click again on Provide Export Compliance Information.



19. Now a pop up will appear which will ask you about Export Compliance Information.
- Select **YES** and click on **Next**.



20. Now on the Export Compliance Information Form, Select **YES** and Click on **Start Internal Testing**.

### Export Compliance Information

Does your app qualify for any of the exemptions provided in Category 5, Part 2 of the U.S. Export Administration Regulations?

☒ Yes  
☐ No

Make sure that your app meets the criteria of the exemption listed below. You are responsible for the proper classification of your product. Incorrectly classifying your app may lead to you being in violation of U.S. export laws and could make you subject to penalties, including your app being removed from the App Store.

You can select Yes for this question if the encryption of your app is:

- (a) Specially designed for medical end-use
- (b) Limited to intellectual property and copyright protection
- (c) Limited to authentication, digital signature, or the decryption of data or files
- (d) Specially designed and limited for banking use or "money transactions"; or
- (e) Limited to "fixed" data compression or coding techniques

You can also select Yes if your app meets the descriptions provided in Note 4 for Category 5, Part 2 of the U.S. Export Administration Regulations.

[Previous](#)[Cancel](#)[Next](#)

### Export Compliance Information

Does your app qualify for any of the exemptions provided in Category 5, Part 2 of the U.S. Export Administration Regulations?

☒ Yes  
☐ No

**i** It is your responsibility to comply with export regulations, and you should revisit these questions if your encryption or exemption status changes. If your encryption and exemption eligibility stay the same, specify this in the target properties table in Xcode. [Learn More](#)

**App Uses Non-Exempt Encryption : No**

**i** If you are making use of ATS or making a call to HTTPS, you are required to submit a year-end self classification report to the US government. [Learn More](#)

Make sure that your app meets the criteria of the exemption listed below. You are responsible for the proper classification of your product. Incorrectly classifying your app may lead to you being in violation of U.S. export laws and could make you subject to penalties, including your app being removed from the App Store.

[Previous](#) [Cancel](#) [Start Internal Testing](#)

21. Since we want to share it our friends, click on the + button next to External Groups,

**Builds**

iOS


**Feedback**

Crashes


Screenshots


**Internal Group**

App Store Connect Users

**External Groups** 

**General Information**



Test Information 

About TestFlight Data 

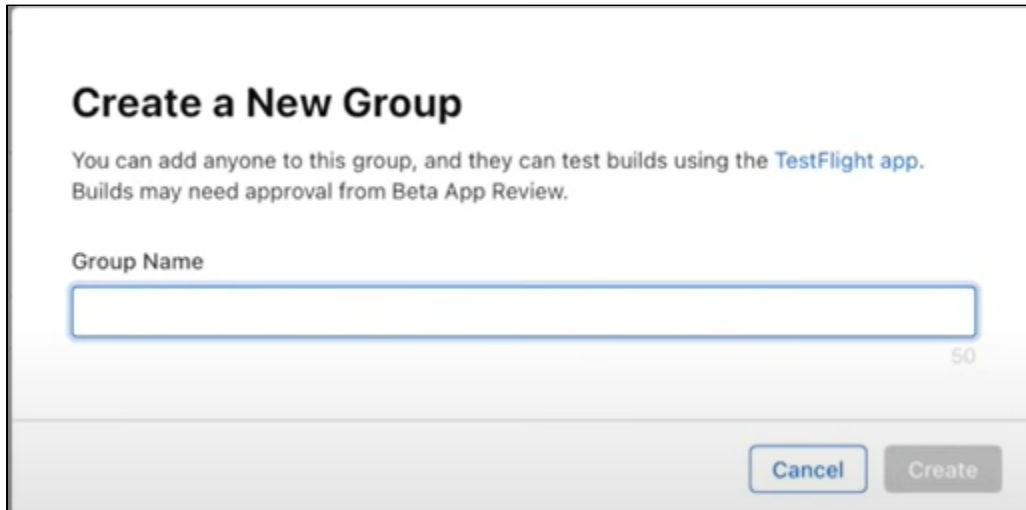
### iOS Builds

The following builds are available to test. [Learn more about build status and metrics.](#)

**Version 0.1.0**

BUILD	STATUS	INVITES	INSTALLS
 1	 Ready to Submit Expires in 89 days	-	-

22. Give any name as the **Group Name** and click on **Create**.



**Create a New Group**

You can add anyone to this group, and they can test builds using the [TestFlight app](#). Builds may need approval from Beta App Review.

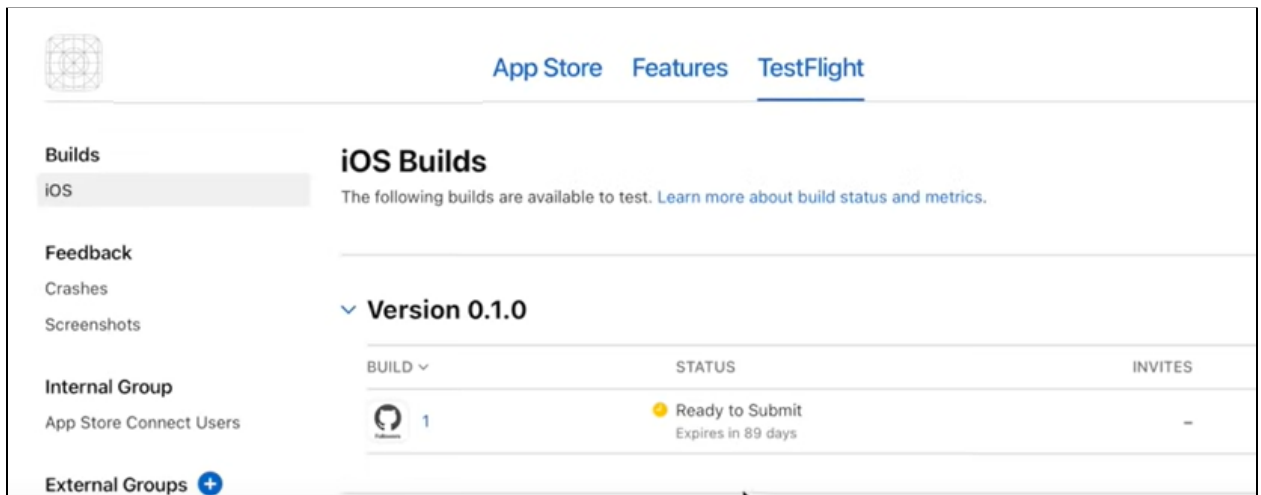
Group Name

50

Cancel Create

23. Once the group is created, go back to the Test Flight page by clicking on **Test Flight**.

a. Click on the “1” next to the Icon



App Store Features TestFlight

**Builds**

iOS

**Feedback**

Crashes

Screenshots

**Internal Group**


App Store Connect Users

**External Groups** +

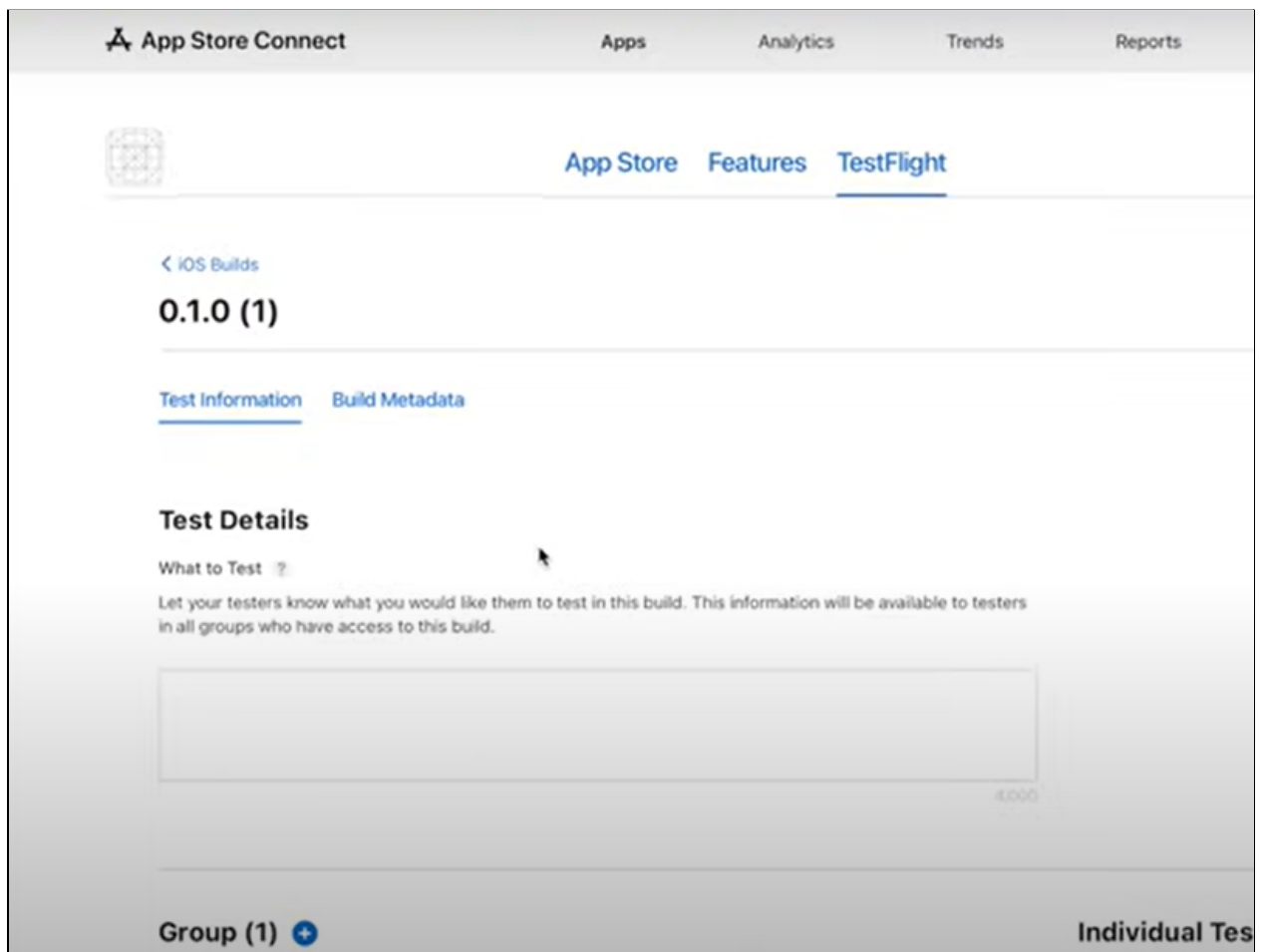
**iOS Builds**

The following builds are available to test. [Learn more about build status and metrics.](#)

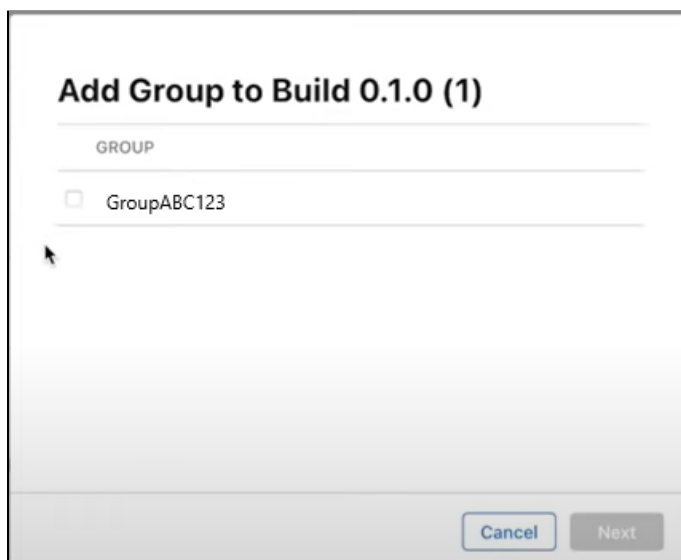
Version 0.1.0

BUILD	STATUS	INVITES
 1	Ready to Submit Expires in 89 days	-

24. In the build page that loads enter anything as **Test Information**. Now click on the + near **Group**



25. Select the Group that you created and click **Next**.





26. Give your information in the Test Information Page. Make sure that you give your email address so that you would receive the feedback given by your friends.

- a. Select **Sign-In required ( if it's required )** .

### Test Information

Feedback Email ?

### Contact Information

First Name

Last Name

Phone number

Email

### Sign-In Information ?

Provide a user name and password so we can sign in to your app. We'll need this to complete your app review.

☒ Sign-in required

User Name

Password

Previous

Cancel

Next

27. Enter **“The complete App”** inside **What to Test** and click on **Submit to Review**.

## What to Test

Let your testers know what you would like them to test in this build. This information will be available to testers in all groups who have access to this build.

☒ Automatically notify testers

▼ English (U.S.)

4,000



Previous
Cancel
Submit for Review

28. Now the Test Flight Page will display **“Waiting for Review”**.

## iOS Builds

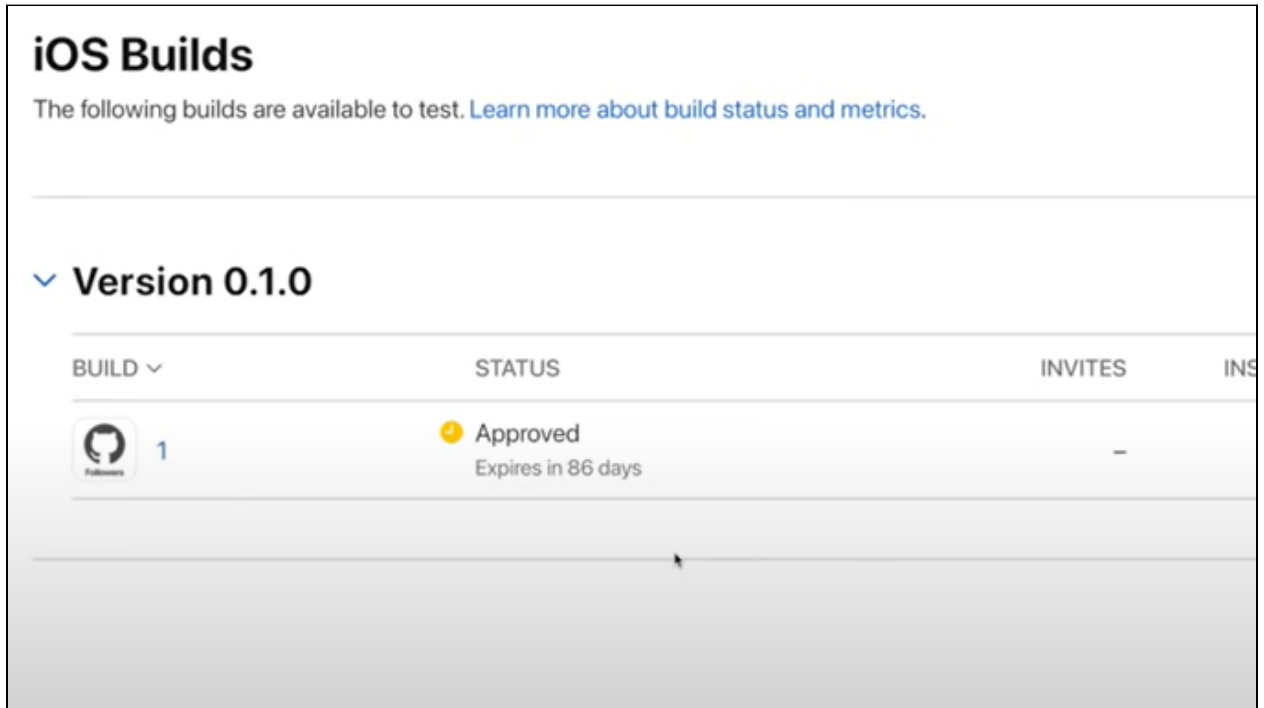
The following builds are available to test. [Learn more about build status and metrics.](#)

▼ Version 0.1.0

BUILD ▼	STATUS	INVITES	INSTALL
 1	 <b>Waiting for Review</b> Expires in 89 days	-	

29. The Review may take 24-72 hours. Once the review is done, the page will display **“Ready to Test”** instead of **“Waiting for Review”**.



30. The status would again change to **“Approved”**. As seen, the build may expire in 85-90 days.



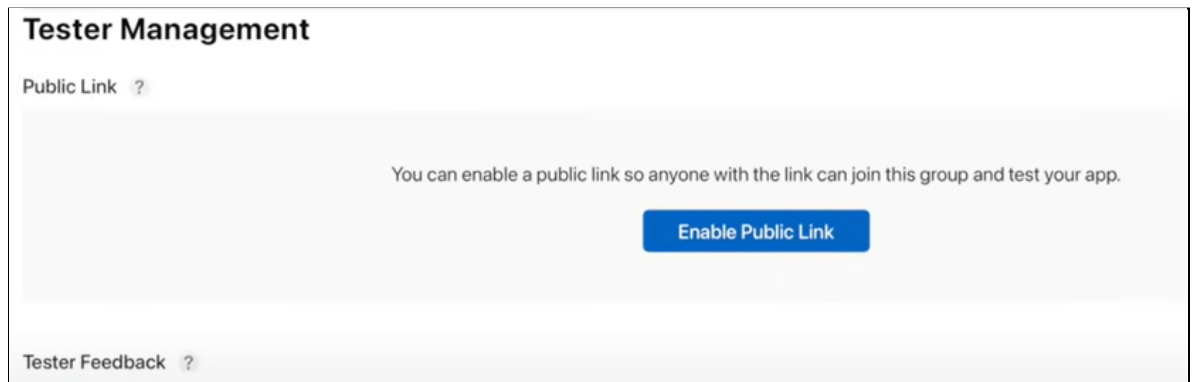
**iOS Builds**

The following builds are available to test. [Learn more about build status and metrics.](#)

▼ **Version 0.1.0**

BUILD ▼	STATUS	INVITES	INS
 1	 <b>Approved</b> Expires in 86 days	-	

31. Once it is Approved, Click on your group name under External Groups.  
a. Click on **Enable Public Link**



**Tester Management**

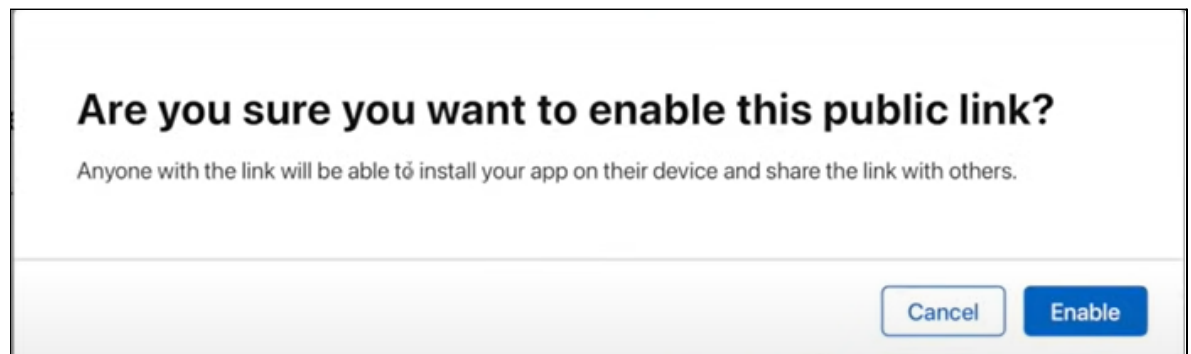
Public Link ?

You can enable a public link so anyone with the link can join this group and test your app.

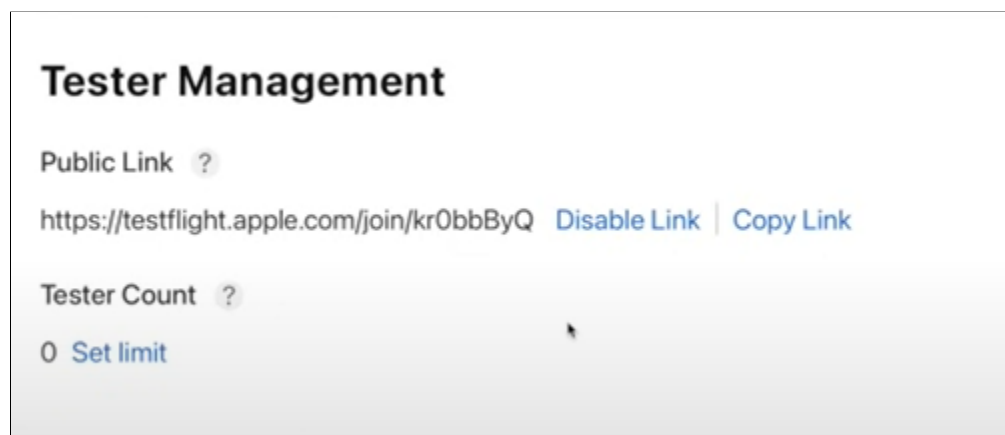
[Enable Public Link](#)

Tester Feedback ?

b. Click on **Enable**.

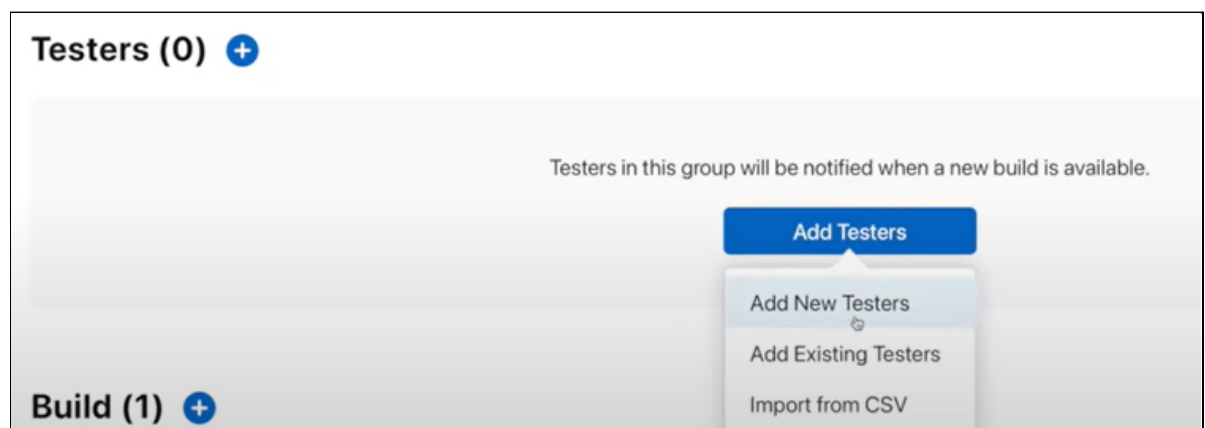


- c. The link will be generated for you.

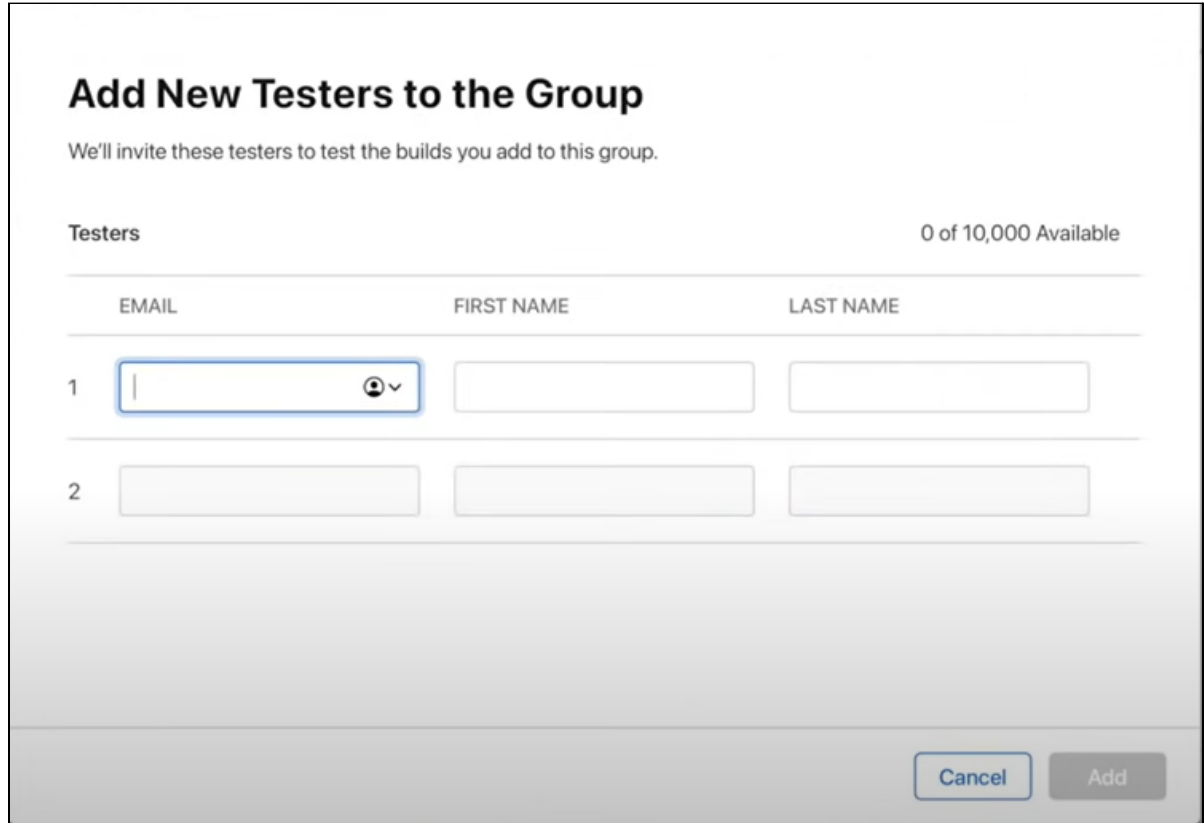


32. Once it is Approved, you can also choose the option to add a small group of friends as testers.

- a. Click on Add Testers
- b. Click on Add New Testers



- c. Enter email address and click **Add**



**Add New Testers to the Group**

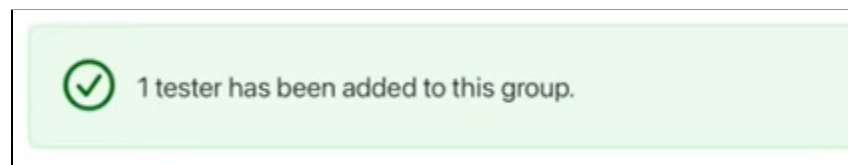
We'll invite these testers to test the builds you add to this group.

Testers 0 of 10,000 Available

	EMAIL	FIRST NAME	LAST NAME
1	<input type="text"/>	<input type="text"/>	<input type="text"/>
2	<input type="text"/>	<input type="text"/>	<input type="text"/>

Cancel Add

- d. You will a confirmation that one user has been added to the group



33. Your friends will receive an email with the details.

34. You can test your app with the test flight app available on the App store.

### EXTEND YOUR KNOWLEDGE

<https://reactnative.dev/docs/publishing-to-app-store>