

# Appstock SDK iOS - Overview

Appstock SDK is a native library that monetizes iOS applications. The latest SDK version is **1.1.0**.

The minimum deployment target is **iOS 12.0**.

Demo applications (Swift, ObjC): <https://public-sdk.al-ad.com/ios/appstock-demo/demo-app-1.1.0/demo-app-1.1.0.zip>

## Integration and configuration

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Follow the [integration instructions](#) to add the SDK to your app. Once the SDK is integrated, you can provide [configuration options](#) that will help increase your revenue. Keep in mind that the SDK supports basic [consent providers](#) according to industry standards.

Appstock SDK supports the following ad formats:

- [Banner](#) (HTML or Video)
- [Interstitial](#) (HTML and Video)
- [Rewarded](#) (HTML and Video)
- [Native](#)

The SDK can be integrated directly into your app or via supported Mediation Adapters:

- [AppLovin MAX](#)
- [GMA SDK](#) (AdMob, GAM)
- [TopOn](#)
- [ironSource](#)

## Appstock SDK iOS - Integration

Appstock SDK is available for integration via CocoaPods dependency manager and direct download of the compiled framework.

### Cocoapods

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We assume the [CocoaPods](#) dependency manager has already been integrated into the project. If not, follow the “Get Started” instructions on [cocoapods.org](https://cocoapods.org).

Add this line into your Podfile within the application target:

```
pod 'AppstockSDK', '1.1.0'
```

Then run `pod install --repo-update`.

### Direct download

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The Appstock SDK is also available via a direct download link: <https://public-sdk.al-ad.com/ios/appstock->

sdk/1.1.0/AppstockSDK.xcframework.zip

## SDK Initialization

---

Import the Appstock SDK core class in the main application class:

```
import AppstockSDK
```

Initialize Appstock SDK in the `application:didFinishLaunchingWithOptions` method by calling `Appstock.initializeSDK()` method.

*Swift*

```
func application(_ application: UIApplication,
didFinishLaunchingWithOptions launchOptions: [UIApplication.LaunchOptionsKey: Any]?)
    // Initialize SDK SDK.
    Appstock.initializeSDK(with: PARTNER_KEY)
}
```

*Objective-C*

```
- (BOOL)application:(UIApplication *)application
didFinishLaunchingWithOptions:(NSDictionary<UIApplicationLaunchOptionsKey, id> *)launchOptions
    // Initialize SDK SDK.
    [Appstock initializeSDKWithPartnerKey:PARTNER_KEY];
    return YES;
}
```

The `Appstock.initializeSdk()` method has a parameter:

- **partnerKey** - determine the Appstock server URL. The Appstock account manager should provide you with this key.

It is recommended that contextual information be provided after initialization to enrich the ad requests. For this purpose, use [SDK parametrization](#) properties.

Once SDK is initialized and all needed parameters are provided, it is ready to request the ads.

## Appstock SDK iOS - Banner

To load a banner ad, create a `AppstockAdView` object, configure it, add it to the view hierarchy, and call its `loadAd()` method.

*Swift*

```

private var adView: AppstockAdView!

private func loadAd() {
    // 1. Create a AppstockAdView
    adView = AppstockAdView(
        frame: CGRect(origin: .zero, size: CGSize(width: 300, height: 250))
    )

    // 2. Configure the AppstockAdView
    adView.placementID = placementID
    adView.delegate = self

    // Add Appstock ad view to the app UI
    containerView.addSubview(adView)

    // 3. Load the ad
    adView.loadAd()
}

```

### Objective-C

```

@property (nonatomic) AppstockAdView * adView;

- (void)loadAd {
    // 1. Create a AppstockAdView
    self.adView = [[AppstockAdView alloc] initWithFrame:CGRectMake(0, 0, 300, 250)];

    // 2. Configure the AppstockAdView
    self.adView.placementID = self.placementID;
    self.adView.delegate = self;

    // Add Appstock ad view to the app UI
    [self.containerAdView addSubview:self.adView];

    // 3. Load the ad
    [self.adView loadAd];
}

```

The `AppstockAdView` should be provided with one of the required configuration properties:

- **placementID** - unique placement identifier generated on the Appstock platform's UI;
- **endpointID** - unique endpoint identifier generated on the Appstock platform's UI.

Which one to use depends on your type of Appstock account.

You should also provide `CGRect` value for ad view to initialize `UIView`.

If you need to integrate video ads, you can also use the `AppstockAdView` object in the same way as for banner ads. The single required change is you should explicitly set the ad format via the respective property:

### Swift

```
adView.adFormat = .video
```

### Objective-C

```
self.adView.adFormat = AppstockAdFormat.video;
```

Once it is done, the TeqBlzae SDK will make ad requests for video placement and render the respective creatives.

You can optionally subscribe to the ad's lifecycle events by implementing the `AppstockAdViewDelegate` protocol:

*Swift*

```
extension BannerAdViewController: AppstockAdViewDelegate {

    func adViewPresentationController() -> UIViewController? {
        // View controller used by SDK for presenting modal.
        // Usual implementation may simply return self,
        // if it is view controller class.
        self
    }

    func adView(_ adView: AppstockAdView, didFailToReceiveAdWith error: any Error)
        // Called when SDK failed to load ad
        print("Did fail to receive ad with error: \(error.localizedDescription)")
    }

    func adView(_ adView: AppstockAdView, didReceiveAdWithAdSize adSize: CGSize,
        adInfo: AppstockAdInfo) {
        // Called when ad is loaded
    }

    func adViewWillPresentModal(_ adView: AppstockAdView) {
        // Called when modal is about to be presented
    }

    func adViewDidDismissModal(_ adView: AppstockAdView) {
        // Called when modal is dismissed
    }

    func adViewWillLeaveApplication(_ adView: AppstockAdView) {
        // Called when the application is about to enter the background
    }
}
```

*Objective-C*

```

@interface AppstockBannerAdViewController : UIViewController <AppstockAdViewDelegate>

@end

// ...

- (UIViewController *)adViewPresentationController {
    // View controller used by SDK for presenting modal.
    // Usual implementation may simply return self,
    // if it is view controller class.
    return self;
}

- (void)adView:(AppstockAdView *)adView didFailToReceiveAdWith:
(NSError *)error {
    // Called when Appstock SDK failed to load ad
    NSLog(@"Did fail to receive ad with error: %@", error.localizedDescription);
}

- (void)adView:(AppstockAdView *)adView
didReceiveAdWithAdSize:(CGSize)adSize adInfo:(AppstockAdInfo *)adInfo {
    // Called when ad is loaded
}

- (void)adViewWillPresentModal:(AppstockAdView *)adView {
    // Called when modal is about to be presented
}

- (void)adViewDidDismissModal:(AppstockAdView *)adView {
    // Called when modal is dismissed
}

- (void)adViewWillLeaveApplication:(AppstockAdView *)adView {
    // Called when the application is about to enter the background
}

```

Once the ad is loaded you can utilize it's basic properties inspecting [AppStockAdInfo](#) structure. Currently AppstockSDK provides the ad price and later this object will be extended.

The `refreshInterval` property controls the frequency of automatic ad refreshes. This interval is set in seconds and dictates how often a new ad request is made after the current ad is displayed.

#### Swift

```
adView.refreshInterval = 30.0
```

#### Objective-C

```
adView.refreshInterval = 30.0;
```

You can stop auto refresh by calling respective method:

#### Swift

```
adView.stopAutoRefresh()
```

#### Objective-C

```
[adView stopAutoRefresh];
```

You can also set `adPosition` property to specify the position of the ad on the screen and corresponding value will be sent in `bidRequest.imp[].banner.pos` ORTB field during bid request.

*Swift*

```
adView.adPosition = .footer
```

*Objective-C*

```
adView.adPostion = AppstockAdPositionFooter;
```

## Appstock SDK iOS - Interstitial

To load interstitial ads, you should create and configure the `AppstockInterstitialAdUnit` and call its `loadAd()` method.

*Swift*

```
private var interstitialAdUnit: AppstockInterstitialAdUnit!

private func loadAd() {
    // 1. Create a AppstockInterstitialAdUnit
    interstitialAdUnit = AppstockInterstitialAdUnit()

    // 2. Configure the AppstockInterstitialAdUnit
    interstitialAdUnit.placementID = placementID
    interstitialAdUnit.delegate = self

    // 3. Load the interstitial ad
    interstitialAdUnit.loadAd()
}
```

*Objective-C*

```
@property (nonatomic) AppstockInterstitialAdUnit * interstitialAdUnit;

- (void)loadAd {
    // 1. Create a AppstockInterstitialAdUnit
    self.interstitialAdUnit = [[AppstockInterstitialAdUnit alloc] init];

    // 2. Configure the AppstockInterstitialAdUnit
    self.interstitialAdUnit.placementID = self.placementID;
    self.interstitialAdUnit.delegate = self;

    // 3. Load the interstitial ad
    [self.interstitialAdUnit loadAd];
}
```

If you need to integrate **video** ads or **multiformat** ads, you should set the `adFormats` property to the respective value:

*Swift*

```
// Make ad request for video ad
interstitialAdUnit.adFormats = [.video]

// Make ad request for both video and banner ads (default behaviour)
interstitialAdUnit.adFormats = [.video, .banner]

// Make ad request for banner ad
interstitialAdUnit.adFormats = [.banner]
```

#### Objective-C

```
// Make ad request for video ad
interstitialAdUnit.adFormats = [NSSet setWithArray:@[AppstockAdFormat.video]];

// Make ad request for both video and banner ads (default behaviour)
interstitialAdUnit.adFormats = [NSSet setWithArray:@[AppstockAdFormat.video, AppstockAdFormat.banner]];

// Make ad request for banner ad
interstitialAdUnit.adFormats = [NSSet setWithArray:@[AppstockAdFormat.banner]];
```

You can check if the ad is ready to be shown by calling respective property:

#### Swift

```
if interstitialAdUnit.isReady {
    // Show the ad...
}
```

#### Objective-C

```
if (interstitialAdUnit.isReady) {
}

```

Once the ad is loaded, you can invoke the `show()` method at any appropriate point of the app flow to present the fullscreen ad. To know when the ad is loaded, you should implement

`AppstockInterstitialAdUnitDelegate` protocol and subscribe to the ad events in its methods.

When the delegate's method `interstitialDidReceiveAd` is called, it means that the SDK has successfully loaded the ad. Starting from this point, you can call the `show()` method to display the fullscreen ad.

The ad's basic properties can be accessed through the [AppStockAdInfo](#) structure once the ad has been loaded. Currently AppstockSDK provides the ad price and later this object will be extended.

#### Swift

```

extension AppstockBannerInterstitialViewController:
AppstockInterstitialAdUnitDelegate {

    func interstitialDidReceiveAd(_ interstitial: AppstockInterstitialAdUnit, adInfo: AppstockAdInfo) {
        // Called when ad is loaded

        // Show the full screen ad
        if interstitialAdUnit.isReady {
            interstitial.show(from: self)
        }
    }

    func interstitial(
        _ interstitial: AppstockInterstitialAdUnit,
        didFailToReceiveAdWithError error: (any Error)?
    ) {
        // Called when Appstock SDK failed to load ad
        print("Did fail to receive ad with error:
        \((String(describing: error?.localizedDescription))")
    }

    func interstitialWillPresentAd(_ interstitial: AppstockInterstitialAdUnit) {
        // Called when interstitial is about to be presented
    }

    func interstitialDidDismissAd(_ interstitial: AppstockInterstitialAdUnit)
    {
        // Called when interstitial is dismissed
    }

    func interstitialDidClickAd(_ interstitial: AppstockInterstitialAdUnit) {
        // Called when interstitial was clicked
    }

    func interstitialWillLeaveApplication(_ interstitial:
AppstockInterstitialAdUnit) {
        // Called when the application is about to enter the background
    }
}

```

*Objective-C*



```

@interface AppstockBannerInterstitialViewController : UIViewController <AppstockInte

@end

// ...

- (void)interstitial:(AppstockInterstitialAdUnit *)interstitial didFailToReceiveAdW:
    // Called when Appstock SDK failed to load ad
    NSLog(@"Did fail to receive ad with error: %@", error.localizedDescription);
}

- (void)interstitialDidReceiveAd:(AppstockInterstitialAdUnit *)interstitial adInfo:
    // Called when ad is loaded
    [interstitial showFrom:self];
}

- (void)interstitialWillPresentAd:(AppstockInterstitialAdUnit *)interstitial {
    // Called when interstitial is about to be presented
}

- (void)interstitialDidDismissAd:(AppstockInterstitialAdUnit *)interstitial {
    // Called when interstitial is dismissed
}

- (void)interstitialDidClickAd:(AppstockInterstitialAdUnit *)interstitial {
    // Called when interstitial was clicked
}

- (void)interstitialWillLeaveApplication:(AppstockInterstitialAdUnit *)interstitial
    // Called when the application is about to enter the background
}

```

## Rendering Controls

The following properties enable rendering customization of video interstitial ads.

Property	Description
isMuted	This option lets you switch the sound on or off during playback. Default is <code>false</code> .
closeButtonArea	This setting determines the percentage of the device screen that the close button should cover. Allowed range - <code>0...1</code> . Default value is <code>0.1</code> .
closeButtonPosition	This setting controls where the close button appears on the screen. Allowed values: <code>topLeft</code> , <code>topRight</code> . Other values will be ignored. Default is <code>topRight</code> .
skipButtonArea	This setting determines the percentage of the device screen that the skip button should cover. Allowed range - <code>0...1</code> . Default value is <code>0.1</code> .
skipButtonPosition	This control sets the position of the skip button. Allowed values: <code>topLeft</code> , <code>topRight</code> . Other values will be ignored. Default is <code>topLeft</code> .
skipDelay	This setting determines the number of seconds after the start of playback before the skip or close button should appear. Default value is <code>10.0</code> .

Property	Description
isSoundButtonVisible	This option switches on or off the visibility of the sound/mute button for users. Default value is <code>false</code> .

Usage example:

*Swift*

```

interstitialAdUnit.isMuted = true
interstitialAdUnit.closeButtonArea = 0.2
interstitialAdUnit.closeButtonPosition = .topRight
interstitialAdUnit.skipButtonArea = 0.2
interstitialAdUnit.skipButtonPosition = .topLeft
interstitialAdUnit.skipDelay = 15.0
interstitialAdUnit.isSoundButtonVisible = true

```

*Objective-C*

```

interstitialAdUnit.isMuted = YES;
interstitialAdUnit.closeButtonArea = 0.2;
interstitialAdUnit.closeButtonPosition = AppstockPositionTopRight;
interstitialAdUnit.skipButtonArea = 0.2;
interstitialAdUnit.skipButtonPosition = AppstockPositionTopLeft;
interstitialAdUnit.skipDelay = 15.0;
interstitialAdUnit.isSoundButtonVisible = YES;

```

## Appstock SDK iOS - Rewarded

To load rewarded ads, you should create and configure the `AppstockRewardedAdUnit` and call its `loadAd()` method.

*Swift*

```

private var rewardedAdUnit: AppstockRewardedAdUnit!

private func loadAd() {
    // 1. Create a AppstockRewardedAdUnit
    rewardedAdUnit = AppstockRewardedAdUnit()

    // 2. Configure the AppstockRewardedAdUnit
    rewardedAdUnit.placementID = placementID
    rewardedAdUnit.delegate = self

    // 3. Load the rewarded ad
    rewardedAdUnit.loadAd()
}

```

*Objective-C*

```

@property (nonatomic) AppstockRewardedAdUnit * rewardedAdUnit;

- (void)loadAd {
    // 1. Create a AppstockRewardedAdUnit
    self.rewardedAdUnit = [[AppstockRewardedAdUnit alloc] init];

    // 2. Configure the AppstockRewardedAdUnit
    self.rewardedAdUnit.placementID = self.placementID;
    self.rewardedAdUnit.delegate = self;

    // 3. Load the rewarded ad
    [self.rewardedAdUnit loadAd];
}

```

If you need to integrate **video** ads or **multiformat** ads, you should set the `adFormats` property to the respective value:

#### Swift

```

// Make ad request for video ad
rewardedAdUnit.adFormats = [.video]

// Make ad request for both video and banner ads (default behaviour)
rewardedAdUnit.adFormats = [.video, .banner]

// Make ad request for banner ad
rewardedAdUnit.adFormats = [.banner]

```

#### Objective-C

```

// Make ad request for video ad
rewardedAdUnit.adFormats = [NSSet arrayWithObjects:[AppstockAdFormat.video]];

// Make ad request for both video and banner ads (default behaviour)
rewardedAdUnit.adFormats = [NSSet arrayWithObjects:[AppstockAdFormat.video, AppstockAdFormat.banner]];

// Make ad request for banner ad
rewardedAdUnit.adFormats = [NSSet arrayWithObjects:[AppstockAdFormat.banner]];

```

You can check if the ad is ready to be shown by calling respective property:

#### Swift

```

if rewardedAdUnit.isReady {
    // Show the ad...
}

```

#### Objective-C

```

if (rewardedAdUnit.isReady) {

}

```

Once the ad is loaded, you can invoke the `show()` method at any appropriate point of the app flow to present the fullscreen ad. To know when the ad is loaded, you should implement `AppstockRewardedAdUnitDelegate` protocol and subscribe to the ad events in its methods.

When the delegate's method `rewardedAdDidReceiveAd` is called, it means that the SDK has

successfully loaded the ad. Starting from this point, you can call the `show()` method to display the full-screen ad.

The ad's basic properties can be accessed through the [AppStockAdInfo](#) structure once the ad has been loaded. Currently AppstockSDK provides the ad price and later this object will be extended.

#### Swift

```
extension AppstockBannerRewardedViewController:
AppstockRewardedAdUnitDelegate {

    func rewardedAdDidReceiveAd(_ rewardedAd: AppstockRewardedAdUnit, adInfo: AppstockAdInfo) {
        // Called when ad is loaded

        // Show the full screen ad
        if rewardedAd.isReady {
            rewardedAd.show(from: self)
        }
    }

    func rewardedAd(
        _ rewardedAd: AppstockRewardedAdUnit,
        didFailToReceiveAdWithError error: Error?
    ) {
        // Called when Appstock SDK failed to load ad
        print("Did fail to receive ad with error:
        \(String(describing: error?.localizedDescription))")
    }

    func rewardedAdWillPresentAd(_ rewardedAd: AppstockRewardedAdUnit) {
        // Called when rewarded ad is about to be presented
    }

    func rewardedAdDidDismissAd(_ rewardedAd: AppstockRewardedAdUnit) {
        // Called when rewarded ad is dismissed
    }

    func rewardedAdDidClickAd(_ rewardedAd: AppstockRewardedAdUnit) {
        // Called when rewarded ad was clicked
    }

    func rewardedAdWillLeaveApplication(_ rewardedAd: AppstockRewardedAdUnit) {
        // Called when the application is about to enter the background
    }

    func rewardedAdUserDidEarnReward(_ rewardedAd: AppstockRewardedAdUnit, reward: AppstockReward) {
        // Called when the reward was granted to user
    }
}
```

#### Objective-C

```

@interface AppstockBannerRewardedViewController : UIViewController <AppstockRewardedAdUnitDelegate>

@end

// ...

- (void)rewardedAdDidReceiveAd:(AppstockRewardedAdUnit *)rewardedAd adInfo:(AppstockRewardedAdInfo *)adInfo {
    // Called when ad is loaded
    [rewardedAd showFrom:self];
}

- (void)rewardedAd:(AppstockRewardedAdUnit *)rewardedAd didFailToReceiveAdWithError:(NSError *)error {
    // Called when Appstock SDK failed to load ad
    NSLog(@"Did fail to receive ad with error: %@", error.localizedDescription);
}

- (void)rewardedAdWillPresentAd:(AppstockRewardedAdUnit *)rewardedAd {
    // Called when rewarded ad is about to be presented
}

- (void)rewardedAdDidDismissAd:(AppstockRewardedAdUnit *)rewardedAd {
    // Called when rewarded ad is dismissed
}

- (void)rewardedAdDidClickAd:(AppstockRewardedAdUnit *)rewardedAd {
    // Called when rewarded ad was clicked
}

- (void)rewardedAdWillLeaveApplication:(AppstockRewardedAdUnit *)rewardedAd {
    // Called when the application is about to enter the background
}

- (void)rewardedAdUserDidEarnReward:(AppstockRewardedAdUnit *)rewardedAd reward:(AppstockReward *)reward {
    // Called when the reward was granted to user
}

```

## Rendering Controls

The following properties enable rendering customization of video rewarded ads.

Property	Description
isMuted	This option lets you switch the sound on or off during playback. Default is <code>false</code> .
closeButtonArea	This setting determines the percentage of the device screen that the close button should cover. Allowed range - <code>0...1</code> . Default value is <code>0.1</code> .
closeButtonPosition	This setting controls where the close button appears on the screen. Allowed values: <code>topLeft</code> , <code>topRight</code> . Other values will be ignored. Default is <code>topRight</code> .
isSoundButtonVisible	This option switches on or off the visibility of the sound/mute button for users. Default value is <code>false</code> .

Usage example:

*Swift*

```

rewardedAdUnit.isMuted = true
rewardedAdUnit.closeButtonArea = 0.2
rewardedAdUnit.closeButtonPosition = .topRight
rewardedAdUnit.isSoundButtonVisible = true

```

#### Objective-C

```

rewardedAdUnit.isMuted = YES;
rewardedAdUnit.closeButtonArea = 0.2;
rewardedAdUnit.closeButtonPosition = AppstockPositionTopRight;
rewardedAdUnit.isSoundButtonVisible = YES;

```

## Appstock SDK iOS - Native

To load a native ad, you should initialize and configure `AppstockNativeAdUnit` object and call the `loadAd()` method.

#### Swift

```

private var nativeAdUnit: AppstockNativeAdUnit!
private var nativeAd: AppstockNativeAd?

private func loadAd() {
    // 1. Create a AppstockNativeAdUnit
    nativeAdUnit = AppstockNativeAdUnit()

    // 2. Configure the AppstockNativeAdUnit
    nativeAdUnit.placementID = placementID
    let image = AppstockNativeAssetImage(minimumWidth: 200,
        minimumHeight: 50, required: true)
    image.type = .Main

    let icon = AppstockNativeAssetImage(minimumWidth: 20,
        minimumHeight: 20, required: true)
    icon.type = .Icon

    let title = AppstockNativeAssetTitle(length: 90, required: true)
    let body = AppstockNativeAssetData(type: .description, required: true)
    let cta = AppstockNativeAssetData(type: .ctatext, required: true)
    let sponsored = AppstockNativeAssetData(type: .sponsored, required: true)

    let parameters = AppstockNativeParameters()
    parameters.assets = [title, icon, image, sponsored, body, cta]

    let eventTracker = AppstockNativeEventTracker(
        event: .Impression,
        methods: [.Image, .js]
    )

    parameters.eventtrackers = [eventTracker]
    parameters.context = .Social
    parameters.placementType = .FeedContent
    parameters.contextSubType = .Social

    nativeAdUnit.parameters = parameters

    nativeAdUnit.loadAd { [weak self] ad, error in
        guard let self = self else {
            return
        }
    }
}

```

```

    guard let ad = ad, error == nil else {
        return
    }

    self.nativeAd = ad
    self.nativeAd?.delegate = self

    // 3. Render the native ad
    self.titleLabel.text = ad.title
    self.bodyLabel.text = ad.text
    self.sponsoredLabel.text = ad.sponsoredBy

    self.mainImageView.setImage(from: ad.imageUrl, p
placeholder: UIImage(systemName: "photo.artframe"))
    self.iconView.setImage(from: ad.iconUrl,
placeholder: UIImage(systemName: "photo.artframe"))

    self.callToActionButton.setTitle(ad.callToAction, for: .normal)

    self.nativeAd?.registerView(view: self.view,
clickableViews: [self.callToActionButton])

    // Use `AdInfo` to get information about the received bid.
    print("Bid price: \(String(describing: nativeAd?.adInfo?.price))")
}
}

```

### Objective-C

```

@property (nonatomic) AppstockNativeAdUnit * nativeAdUnit;
@property (nonatomic, nullable) AppstockNativeAd * nativeAd;

- (void)loadAd {
    // 1. Create a AppstockNativeAdUnit
    self.nativeAdUnit = [[AppstockNativeAdUnit alloc] init];

    // 2. Configure the AppstockNativeAdUnit
    self.nativeAdUnit.placementID = self.placementID;

    AppstockNativeAssetImage *image = [
        [AppstockNativeAssetImage alloc]
        initWithMinimumWidth:200
        minimumHeight:200
        required:true
    ];

    image.type = AppstockImageAsset.Main;

    AppstockNativeAssetImage *icon = [
        [AppstockNativeAssetImage alloc]
        initWithMinimumWidth:20
        minimumHeight:20
        required:true
    ];

    icon.type = AppstockImageAsset.Icon;

    AppstockNativeAssetTitle *title = [
        [AppstockNativeAssetTitle alloc]
        initWithLength:90
        required:true
    ];
}

```

```

        required:true
    ];

    AppstockNativeAssetData *body = [
        [AppstockNativeAssetData alloc]
        initWithType:AppstockDataAssetDescription
        required:true
    ];

    AppstockNativeAssetData *cta = [
        [AppstockNativeAssetData alloc]
        initWithType:AppstockDataAssetCtatest
        required:true
    ];

    AppstockNativeAssetData *sponsored = [
        [AppstockNativeAssetData alloc]
        initWithType:AppstockDataAssetSponsored
        required:true
    ];

    AppstockNativeParameters * parameters = [AppstockNativeParameters new];
    parameters.assets = @[title, icon, image, sponsored, body, cta];

    AppstockNativeEventTracker * eventTracker = [
        [AppstockNativeEventTracker alloc]
        initWithEvent:AppstockEventType.Impression
        methods:@[AppstockEventTracking.Image, AppstockEventTracking.js]
    ];

    parameters.eventtrackers = @[eventTracker];
    parameters.context = AppstockContextType.Social;
    parameters.placementType = AppstockPlacementType.FeedContent;
    parameters.contextSubType = AppstockContextSubType.Social;

    self.nativeAdUnit.parameters = parameters;

    __weak typeof(self) weakSelf = self;
    [self.nativeAdUnit loadAdWithCompletion:^(AppstockNativeAd * _Nullable ad, NSError
        if (error != nil || ad == nil) {
            return;
        }

        weakSelf.nativeAd = ad;
        weakSelf.nativeAd.delegate = self;

        weakSelf.titleLabel.text = ad.title;
        weakSelf.bodyLabel.text = ad.text;
        weakSelf.sponsoredLabel.text = ad.sponsoredBy;

        [weakSelf.mainImageView setImageFromURLString:ad.imageUrl
        placeholder:[UIImage imageNamed:@"photo.artframe"]];
        [weakSelf.iconView setImageFromURLString:ad.iconUrl
        placeholder:[UIImage imageNamed:@"photo.artframe"]];
        [weakSelf.callToActionButton
        setTitle:ad.callToAction forState:UIControlStateNormal];

        // Use `AdInfo` to get information about the received bid.
        NSLog(@"Bid price: %@", weakSelf.nativeAd.adInfo.price ?: @"(null)");
    }];
}

```



You can configure the native assets by setting up `parameters` property. Here is a brief description of `AppstockNativeParameters`:

- `assets` - an array of assets associated with the native ad.
- `eventtrackers` - an array of event trackers used for tracking native ad events.
- `version` - the version of the native parameters. Default is `"1.2"`.
- `context` - the context type for the native ad (e.g., content, social).
- `contextSubType` - a more detailed context in which the ad appears.
- `placementType` - the design/format/layout of the ad unit being offered.
- `placementCount` - the number of identical placements in this layout. Default is `1`.
- `sequence` - the sequence number of the ad in a series. Default is `0`.
- `asseturlsupport` - whether the supply source / impression supports returning an `assetsurl` instead of an asset object. Default is `0` (unsupported).
- `durlsupport` - whether the supply source / impression supports returning a `dco url` instead of an asset object. Default is `0` (unsupported).
- `privacy` - set to 1 when the native ad support buyer-specific privacy notice. Default is `0`.
- `ext` - a dictionary to hold any additional data as key-value pairs.

Here is a brief description of available assets:

Class/Enum	Type	Name	Description
<code>AppstockNativeAssetTitle</code>	Class		A subclass representing a title asset in a native ad.
	Property	<code>ext</code>	An optional extension for additional data.
	Property	<code>length</code>	The length of the title.
<code>AppstockNativeAssetImage</code>	Class		A subclass representing an image asset in a native ad.
	Property	<code>type</code>	The type of image asset (e.g., icon, main image).
	Property	<code>width</code>	The width of the image.
	Property	<code>widthMin</code>	The minimum width of the image.
	Property	<code>height</code>	The height of the image.
	Property	<code>heightMin</code>	The minimum height of the image.
	Property	<code>mimes</code>	An array of supported MIME types for the image.

Class/Enum	Type	Name	Description
	Property	ext	An optional extension for additional data.
AppstockNativeAssetData	Class		A subclass representing a data asset in a native ad.
	Property	length	The length of the data string.
	Property	ext	An optional extension for additional data.
	Property	type	The type of data asset (e.g., sponsored, description).
AppstockImageAsset	Class		A class representing different types of image assets in the Appstock SDK.
	Property	Icon	Represents an icon image asset.
	Property	Main	Represents a main image asset.
	Property	Custom	Represents a custom image asset.
AppstockDataAsset	Enum		An enum representing different types of data assets in the Appstock SDK.
	Case	sponsored	Represents sponsored content.
	Case	description	Represents a description.
	Case	rating	Represents a rating.
	Case	likes	Represents likes.
	Case	downloads	Represents download count.
	Case	price	Represents the price.
	Case	saleprice	Represents a sale price.
	Case	phone	Represents a phone number.
	Case	address	Represents an address.
	Case	description2	Represents a secondary description.

Class/Enum	Type	Name	Description
	Case	<code>displayurl</code>	Represents a display URL.
	Case	<code>ctatext</code>	Represents call-to-action text.
	Case	<code>Custom</code>	Represents a custom data asset.
	Method	<code>exchangeID</code>	Returns or sets the exchange ID for the <code>Custom</code> case.

You can also specify what type of event tracking is supported. For that you need to set `eventtrackers` property. Here is a brief description of available types:

Class/Enum	Type	Name	Description
<code>AppstockNativeEventTracker</code>	Class		A class representing event trackers for native ads.
	Property	<code>event</code>	The type of event to be tracked (e.g., impression, viewable impression).
	Property	<code>methods</code>	An array of tracking methods used for the event.
	Property	<code>ext</code>	An optional extension for additional data.
<code>AppstockEventType</code>	Class		A class representing different event types that can be tracked.
	Property	<code>Impression</code>	Represents an impression event.

Class/Enum	Type	Name	Description
	Property	<code>ViewableImpression50</code>	Represents a 50% viewable impression event.
	Property	<code>ViewableImpression100</code>	Represents a 100% viewable impression event.
	Property	<code>ViewableVideoImpression50</code>	Represents a 50% viewable video impression event.
	Property	<code>Custom</code>	Represents a custom event type.
<code>AppstockEventTracking</code>	Class		A class representing different methods of event tracking.
	Property	<code>Image</code>	Represents image-based event tracking.
	Property	<code>js</code>	Represents JavaScript-based event tracking.
	Property	<code>Custom</code>	Represents a custom tracking method.

Once the ad is loaded, the SDK provides you with a `AppstockNativeAd` object in the callback of the `loadAd()` method. This object contains ad assets that you should apply to the native ad layout.

If you need to manage stages of the ad lifecycle you should implement the `AppstockNativeAdDelegate` protocol.

The ad's basic properties can be accessed through the [AppStockAdInfo](#) structure once the ad has been loaded. Currently AppstockSDK provides the ad price and later this object will be extended.

*Swift*

```

extension AppstockNativeViewController: AppstockNativeAdDelegate {

    func adDidExpire(ad: AppstockNativeAd) {
        // Called when the ad expired
    }

    func adWasClicked(ad: AppstockNativeAd) {
        // Called when the ad was clicked
    }

    func adDidLogImpression(ad: AppstockNativeAd) {
        // Called when the impression was logged
    }
}

```

#### Objective-C

```

@interface AppstockNativeViewController : UIViewController<AppstockNativeAdDelegate>

@end

// ...

- (void)adDidExpireWithAd:(AppstockNativeAd *)ad {
    // Called when the ad expired
}

- (void)adWasClickedWithAd:(AppstockNativeAd *)ad {
    // Called when the ad was clicked
}

- (void)adDidLogImpressionWithAd:(AppstockNativeAd *)ad {
    // Called when the impression was logged
}

```

If you need ORTB native request object, you can use `getNativeRequestObject` method for that. It returns a dictionary with request configuration.

#### Swift

```

let request = adUnit.getNativeRequestObject()

```

#### Objective-C

```

NSDictionary * request = [self.nativeAdUnit getNativeRequestObject];

```

## Appstock SDK iOS - SDK Parametrization

### Configuration via `AppstockTargeting` class

The `AppstockTargeting` class provided a set of properties that allow to enrich the ad request.

Method	Description	OpenRTB field
--------	-------------	---------------

Method	Description	OpenRTB field
AppstockTargeting.userExt	Placeholder for exchange-specific extensions to OpenRTB.	user.ext
AppstockTargeting.userCustomData	Set the specific user data	user.customdata
AppstockTargeting.subjectToCOPPA	Integer flag indicating if this request is subject to the COPPA regulations established by the USA FTC, where 0 = no, 1 = yes	regs.coppa
AppstockTargeting.storeURL	App store URL for an installed app.	app.storeurl
AppstockTargeting.sourceapp	ID of publisher app in Apple's App Store.	imp[].ext.skadn.sourceapp
AppstockTargeting.publisherName	App's publisher name	app.publisher.name
AppstockTargeting.itunesID	The app identifier in iTunes.	app.bundle
AppstockTargeting.eids	Placeholder for User Identity Links	usr.ext.eids
AppstockTargeting.externalUserIds	Defines the User Id Object from an External Thrid Party Source.	usr.ext.eids
AppstockTargeting.domain	Domain of the app (e.g., "mygame.foo.com").	app.domain
AppstockTargeting.coordinate	Location of the user's home base. This is not necessarily their current location	user.geo.lat, user.geo.lon
AppstockTargeting.addAppKeyword	Comma-separated list of keywords about the app	app.keywords

Usage examples:

*Swift*

```

// Set the userExt property
AppstockTargeting.shared.userExt = ["customField": "value"]

// Set the userCustomData property
AppstockTargeting.shared.userCustomData = "{\"key\":\"value\"}"

// Set the subjectToCOPPA property
AppstockTargeting.shared.subjectToCOPPA = true

// Set the storeURL property
AppstockTargeting.shared.storeURL = "https://appstore.com/app"

// Set the sourceapp property
AppstockTargeting.shared.sourceapp = "123456789"

// Set the publisherName property
AppstockTargeting.shared.publisherName = "MyPublisher"

// Set the itunesID property
AppstockTargeting.shared.itunesID = "com.example.app"

// Set the eids property
AppstockTargeting.shared.eids = [{"uids":["id": "123"], "source": "idfa"}]

// Set the externalUserIds property
AppstockTargeting.shared.externalUserIds =
[AppstockExternalUserId(source: "adserver.org", identifier:
"111111111111", ext: ["partner" : "abs"])]

// Set the domain property
AppstockTargeting.shared.domain = "mygame.foo.com"

// Set the coordinate property
AppstockTargeting.shared.coordinate = NSValue(cgCoordinate:
CLLocationCoordinate2D(latitude: 37.7749, longitude: -122.4194))

// Add a keyword
AppstockTargeting.shared.addAppKeyword("gaming")

```

## Objective-C

```

// Set the userExt property
AppstockTargeting.shared.userExt = @{@"customField": @"value"};

// Set the userCustomData property
AppstockTargeting.shared.userCustomData = @{@"key":@"value"};

// Set the subjectToCOPPA property
AppstockTargeting.shared.subjectToCOPPAObjc = @1;

// Set the storeURL property
AppstockTargeting.shared.storeURL = @"https://appstore.com/app";

// Set the sourceapp property
AppstockTargeting.shared.sourceapp = @"123456789";

// Set the publisherName property
AppstockTargeting.shared.publisherName = @"MyPublisher";

// Set the itunesID property
AppstockTargeting.shared.itunesID = @"com.example.app";

// Set the eids property
AppstockTargeting.shared.eids = @[@[@"uids": @{@"id": @"123"}, @{@"source": @"idfa"}]];

// Set the externalUserIds property
AppstockTargeting.shared.externalUserIds = @[[[AppstockExternalUserId
alloc] initWithSource:@"adserver.org" identifier:@"111111111111" atype:@1
ext:@{@"partner": @"abs"}]];

// Set the domain property
AppstockTargeting.shared.domain = @"mygame.foo.com";

// Set the coordinate property
AppstockTargeting.shared.coordinate = [NSValue
valueWithMKCoordinate:CLLocationCoordinate2DMake(37.7749, -122.4194)];

// Add a keyword
[AppstockTargeting.shared addAppKeyword:@"gaming"];

```

## Configuration via `Appstock` class

`Appstock` class provides some properties to configure SDK and ad request. Here is a brief overview:

Property/Method	Description
<code>timeoutUpdated</code>	Indicates whether the ad request timeout has been updated.
<code>debugRequests</code>	Enables or disables debug mode for requests.
<code>endpointID</code>	A unique identifier generated on the platform's UI.
<code>shouldAssignNativeAssetID</code>	Determines whether the asset ID for native ads should be manually assigned.
<code>shareGeoLocation</code>	Controls whether location data is shared for better ad targeting.
<code>logLevel</code>	Sets the desired verbosity of the logs.



Property/Method	Description
<code>externalUserIdArray</code>	An array containing objects that hold external user ID parameters.
<code>version</code>	Returns the SDK version.
<code>omsdkVersion</code>	Returns the OM SDK version used by the SDK.
<code>timeoutMillis</code>	The timeout in milliseconds for ad requests.
<code>timeoutMillisDynamic</code>	The dynamic timeout value set when <code>timeoutMillis</code> changes.
<code>adRequestTimeout</code>	The time interval allowed for a creative to load before it is considered a failure.
<code>adRequestTimeoutPreRenderContent</code>	The time interval allowed for video and interstitial creatives to load.
<code>initializeSDK(with partnerKey)</code>	Initializes the Appstock SDK with the provided partner key.

Usage examples:

*Swift*

```

// Setting the timeoutUpdated flag
Appstock.shared.timeoutUpdated = true

// Enabling debug logging
Appstock.shared.debugRequests = true

// Setting the endpoint ID
Appstock.shared.endpointID = "12345"

// Managing the asset ID for native ads
Appstock.shared.shouldAssignNativeAssetID = true

// Sharing location data for targeted ads
Appstock.shared.shareGeoLocation = true

// Setting the log level to debug
Appstock.shared.logLevel = .debug

// Adding an external user ID
Appstock.shared.externalUserIdArray = [AppstockExternalUserId(
source: "adserver.org", identifier: "11111111111",
ext: ["partner" : "abs"])]

// Accessing the SDK version
let sdkVersion = Appstock.shared.version

// Accessing the OM SDK version
let omVersion = Appstock.shared.omsdkVersion

// Setting the timeout for ad requests
Appstock.shared.timeoutMillis = 5000

// Adjusting the creative load time
Appstock.shared.adRequestTimeout = 8.0

// Adjusting the pre-rendered content load time
Appstock.shared.adRequestTimeoutPreRenderContent = 20.0

// Initializing the SDK
Appstock.initializeSDK(with: "partner-key")

```

**Objective-C**

```

// Setting the timeoutUpdated flag
Appstock.shared.timeoutUpdated = YES;

// Enabling debug logging
Appstock.shared.debugRequests = YES;

// Setting the endpoint ID
Appstock.shared.endpointID = @"12345";

// Managing the asset ID for native ads
Appstock.shared.shouldAssignNativeAssetID = YES;

// Sharing location data for targeted ads
Appstock.shared.shareGeoLocation = YES;

// Setting the log level to debug
Appstock.shared.logLevel = APSLogLevel.debug;

// Adding an external user ID
Appstock.shared.externalUserIdArray = @[[AppstockExternalUserId alloc]
initWithSource:@"adserver.org" identifier:@"111111111111" atype:@1
ext:@{@"partner": @"abs"}]];

// Accessing the SDK version
NSString *sdkVersion = Appstock.shared.version;

// Accessing the OM SDK version
NSString *omVersion = Appstock.shared.omsdkVersion;

// Setting the timeout for ad requests
Appstock.shared.timeoutMillis = 5000;

// Adjusting the creative load time
Appstock.shared.adRequestTimeout = 8.0;

// Adjusting the pre-rendered content load time
Appstock.shared.adRequestTimeoutPreRenderContent = 20.0;

// Initializing the SDK
[Appstock initializeSDKWith:@"partner-key"];

```

## Appstock SDK iOS - Consent Management

Appstock SDK reads consent data provided by CMPs from User Settings and sends it in the ad request. You shouldn't do anything except to be sure that the CMP SDKs write data into particular place in the user storage defined by the IAB standards. The following table describes which data is used by SDK and how exactly:

Storage Key	Description	
<a href="#">TCF v2</a>		

Storage Key	Description	
<code>IABTCF_gdprApplies</code>	Number: 1 GDPR applies in current context 0 - GDPR does not apply in current context Unset - undetermined (default before initialization)	<code>regs.ext.gdpr</code>
<code>IABTCF_TCString</code>	String: Full encoded TC string	<code>user.ext.consent</code>
<code>IABTCF_PurposeConsents</code>	Binary String: The '0' or '1' at position n – where n's indexing begins at 0 – indicates the consent status for purpose ID n+1; false and true respectively. eg. '1' at index 0 is consent true for purpose ID 1	Defines the ability of SDK to collect device info.
<a href="#">CCPA</a>		
<code>IABUSPrivacy_String</code>	String: Aligns with IAB OpenRTB CCPA Advisory. The String encodes all choices and information.	<code>regs.ext.us_privacy</code>
<a href="#">GPP</a>		
<code>IABGPP_HDR_GppString</code>	Full consent string in its encoded form	<code>regs.gpp</code>
<code>IABGPP_GppSID</code>	Section ID(s) considered to be in force. Multiple IDs are separated by underscore, e.g. "2_3"	<code>regs.gpp_sid</code>

## Appstock SDK iOS - Mediation - AdMob

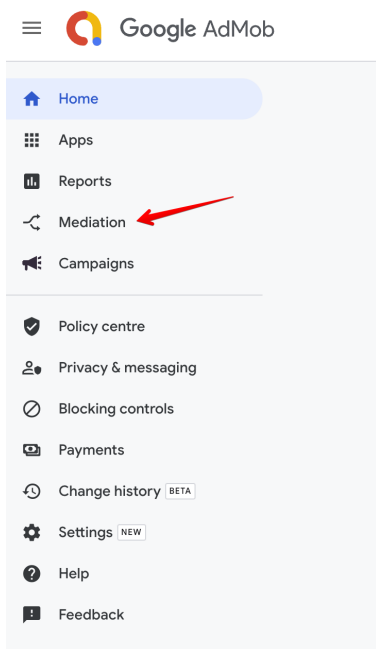
In order to integrate Appstock AdMob Adapter into your app, add the following lines to your Podfile:

```
pod 'AppstockSDK', '1.1.0'
pod 'GoogleMobileAdsAppstockAdapter', '1.1.0'
```

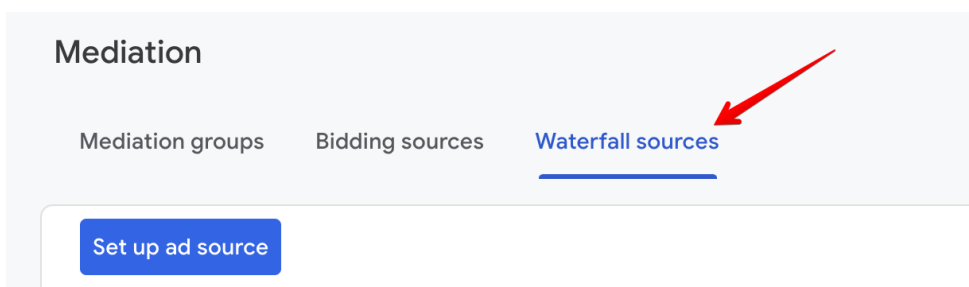
In order to add Appstock to the waterfall, you need to create a custom event in your AdMob account and then add this event to the respective mediation groups.

To create a Appstock custom event, follow the instructions:

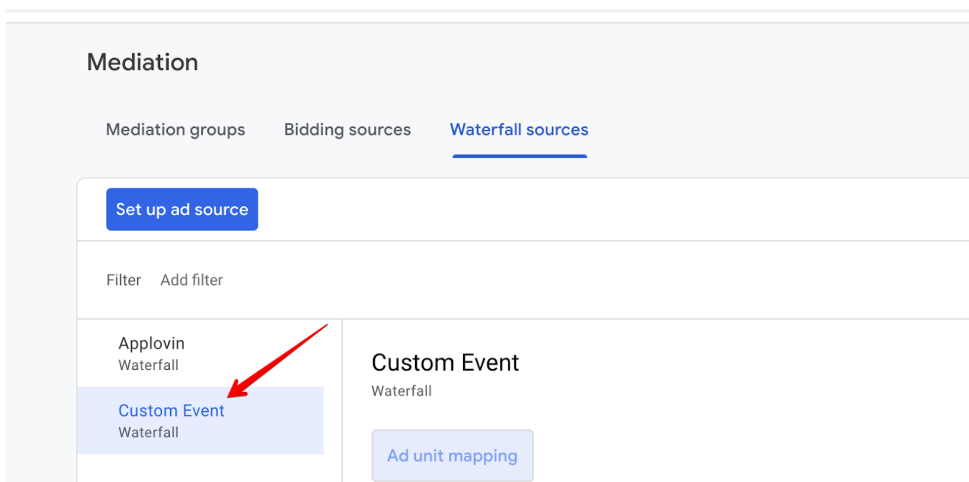
1. Sign in to your AdMob account at <https://apps.admob.com>.
2. Click **Mediation** in the sidebar.



3. Click the **Waterfall** sources tab.



4. Click **Custom Event**.



5. Find your app in the list and click on it to expand.







Custom Event

Waterfall

Ad unit mapping

All visible apps

Apps

	App ID	
	<a href="#">View</a>	▼
	<a href="#">View</a>	▼
	<a href="#">View</a>	▼
	<a href="#">View</a>	▼
	<a href="#">View</a>	▼
	<a href="#">View</a>	▼


6. Click **Add mapping**.

iOS

Test App

Free | iOS

[View](#)



No ad units have been mapped yet

Add mapping

7. Click **Add mapping**. To include multiple custom events, you'll need to set up [additional mappings](#).

Edit ad unit mapping

Custom Event

Waterfall

iOS


Test App

Free | iOS

ca-app-pub-2844566227051243~1997399649

AdMob ad unit

Custom Event

 Test Banner  
Banner

Add mapping

Show rows 10 1 - 1 of 1

Cancel Save


8. Add the mapping details, including a mapping name. Enter a class name (required) and a parameter (optional) for each ad unit. Typically, the optional parameter contains a JSON that contains IDs (placement ID, endpoint ID) that will be used by the custom event to load ads.

Parameters:

- **placement\_id** - unique identifier generated on the platform's UI;
- **endpoint\_id** - unique identifier generated on the platform's UI;
- **sizes** - array of the ad sizes. You can specify width in `w` field and height in `h` field. Make sure you've provided both width and height values;
- **ad\_formats** - array of the ad formats. You can pass only `banner` and `video` ad formats. Other values will be ignored. Note that the multiformat request is supported only for interstitial ads.

```
{
  "placement_id": "4",
  "sizes": [
    {
      "w": 729,
      "h": 90
    }
  ],
  "ad_formats": ["video"]
}
```

```
{
  "endpoint_id": "1",
  "sizes": [
    {
      "w": 320,
      "h": 50
    },
    {
      "w": 300,
      "h": 250
    }
  ],
  "ad_formats": ["banner"]
}
```

 Test Banner  
Banner

Mapping name  
Test Banner

Class Name  
AppstockGADMediationAdapter

Parameter (optional)  
{ "placement\_id": "4" }

[Add mapping](#)

Show rows 10 1 - 9 of 9 < > >|

[Cancel](#) [Save](#)

9. Click **Save**.

Test Banner  
Banner

Mapping name  
Test Banner

Class Name  
AppstockGADMAdapter

Parameter (optional)  
{\"placement\_id\":\"4\"}

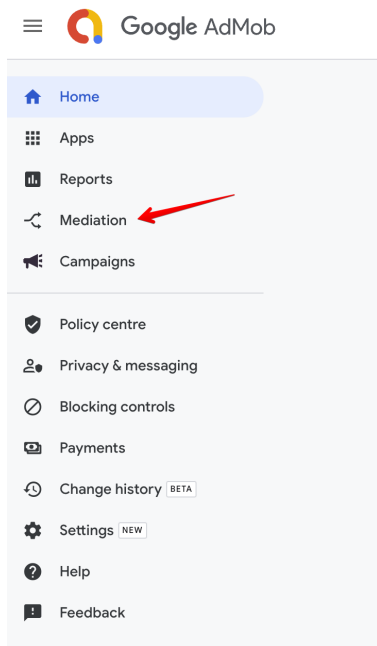
Add mapping

Show rows 10 1 - 9 of 9

Cancel Save

After you've finished setting up your custom event, you're ready to add it to a mediation group. To add your ad source to an existing mediation group:

1. Sign in to your AdMob account at <https://apps.admob.com>.
2. Click **Mediation** in the sidebar.



3. In the **Mediation group** tab, click the name of the mediation group to which you're adding the ad source.



**Mediation**

Mediation groups   Bidding sources   Waterfall sources


<input type="checkbox"/>	🟢	Test	27	🔍	—	—	No A/B test	▼
<input type="checkbox"/>	🟢							
<input type="checkbox"/>	🟢							
<input type="checkbox"/>	🟢							
<input type="checkbox"/>	🟢							
<input type="checkbox"/>	🟢							
<input type="checkbox"/>	🟢							
<input type="checkbox"/>	🟢							
<input type="checkbox"/>	🟢							
<input type="checkbox"/>	🟡							
<input type="checkbox"/>	🟡							
<input type="checkbox"/>	🟡							
<input type="checkbox"/>	🟡							
AdMob (default)				🔍	—	—	No A/B test	

Show rows 50 1 - 40 of 40 < > >|

4. In the Waterfall ad sources table, click **Add custom event**.

Waterfall ⓘ

Add ad source   **Add custom event**   Change status ▼

<input type="checkbox"/>	Status	Ad source	Order (by eCPM) ⓘ	Ad unit mapping ⓘ	Optimisation status ⓘ
 <p>No waterfall ad sources have been added.</p>					

5. Enter a descriptive label for the event. Enter a manual eCPM to use for this custom event. The eCPM will be used to dynamically position the event in the mediation waterfall where it will compete with other ad sources to fill ad requests.

### Add custom event


Label ?

TestCustomEvent

15 / 255

Manual eCPM (\$ USD) ?

US\$2

 Enter a manual eCPM for this custom event. The eCPM determines the order of the ad source to serve ads.

Cancel

Continue

6. Click **Continue**.

### Add custom event


Label ?

TestCustomEvent

15 / 255

Manual eCPM (\$ USD) ?

US\$2

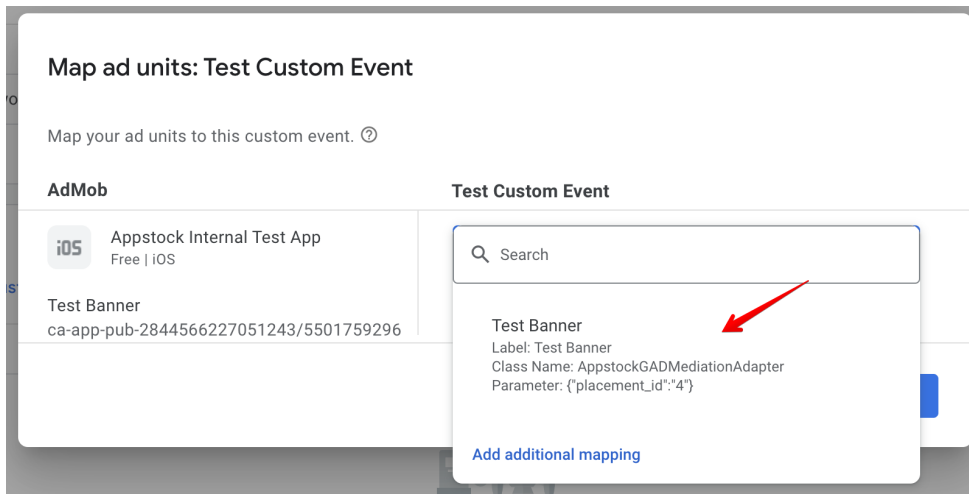
 Enter a manual eCPM for this custom event. The eCPM determines the order of the ad source to serve ads.

Cancel

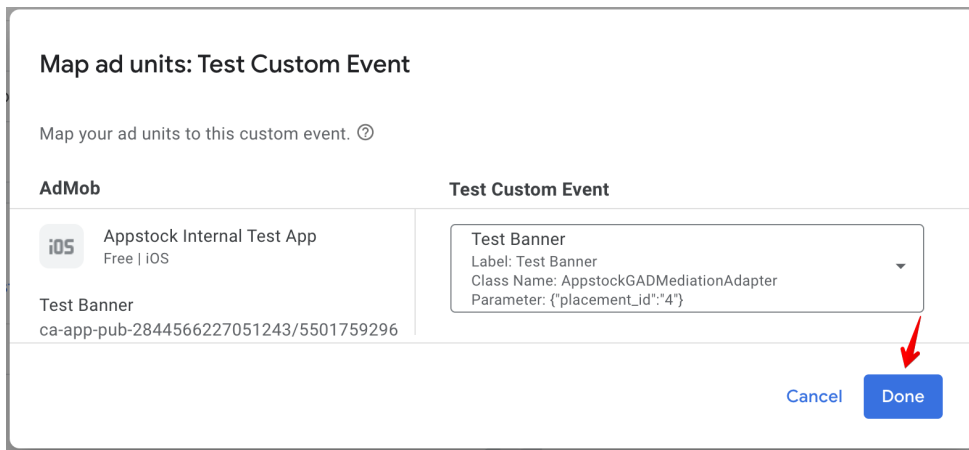
Continue

7. Select an existing mapping to use for this custom event or click Add mapping to set up a new mapping. To use multiple custom events, you'll have to [create an additional mapping](#) for each custom

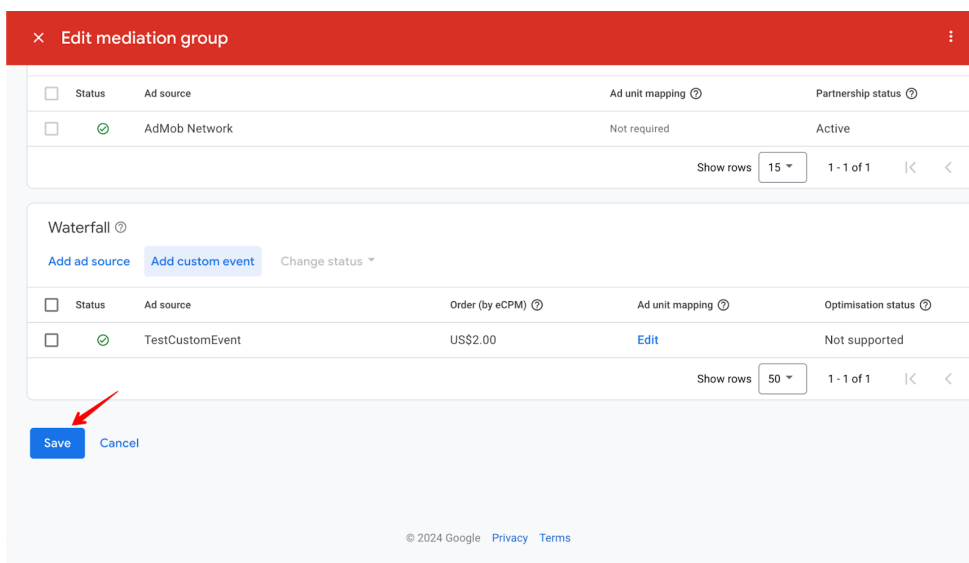
event.



8. Click **Done**.



9. Click **Save**. The mediation group will be saved.



## Native Ads

---

If you integrate native ads, you should pass the native assets through Google Mobile Ads SDK (`GADAdLoader`) to the Appstock Adapter using `AppstockGADExtras` class in your app code:

*Swift*

```
private func loadAd() {
    // 1. Create a GADAdLoader
    adLoader = GADAdLoader(
        adUnitID: adUnitId,
        rootViewController: self,
        adTypes: [.native],
        options: []
    )

    // 2. Configure the GADAdLoader
    adLoader?.delegate = self

    // 3. Configure the native parameters
    let image = AppstockNativeAssetImage(minimumWidth: 200,
        minimumHeight: 50, required: true)
    image.type = .Main

    let icon = AppstockNativeAssetImage(minimumWidth: 20,
        minimumHeight: 20, required: true)
    icon.type = .Icon

    let title = AppstockNativeAssetTitle(length: 90, required: true)
    let body = AppstockNativeAssetData(type: .description,
        required: true)
    let cta = AppstockNativeAssetData(type: .ctatext, required: true)
    let sponsored = AppstockNativeAssetData(type: .sponsored,
        required: true)

    let parameters = AppstockNativeParameters()
    parameters.assets = [title, icon, image, sponsored, body, cta]

    let eventTracker = AppstockNativeEventTracker(
        event: .Impression,
        methods: [.Image, .js]
    )

    parameters.eventtrackers = [eventTracker]
    parameters.context = .Social
    parameters.placementType = .FeedContent
    parameters.contextSubType = .Social

    // 4. Create a AppstockGADExtras
    let extras = AppstockGADExtras(nativeParameters: parameters)

    // 5. Create a GADRequest
    let request = GADRequest()

    // 6. Register the AppstockGADExtras
    request.register(extras)

    // 7. Load the ad
    adLoader?.load(request)
}
```

## Objective-C

```
- (void)loadAd {
    // 1. Create a GADAdLoader
    self.adLoader = [[GADAdLoader alloc] initWithAdUnitID:self.adUnitId
    rootViewController:self adTypes:@[GADAdLoaderAdTypeNative]
    options:@[]];

    // 2. Configure the GADAdLoader
    self.adLoader.delegate = self;

    // 3. Configure the native parameters
    AppstockNativeAssetImage *image = [
        [AppstockNativeAssetImage alloc]
        initWithMinimumWidth:200
        minimumHeight:200
        required:true
    ];

    image.type = AppstockImageAsset.Main;

    AppstockNativeAssetImage *icon = [
        [AppstockNativeAssetImage alloc]
        initWithMinimumWidth:20
        minimumHeight:20
        required:true
    ];

    icon.type = AppstockImageAsset.Icon;

    AppstockNativeAssetTitle *title = [
        [AppstockNativeAssetTitle alloc]
        initWithLength:90
        required:true
    ];

    AppstockNativeAssetData *body = [
        [AppstockNativeAssetData alloc]
        initWithType:AppstockDataAssetDescription
        required:true
    ];

    AppstockNativeAssetData *cta = [
        [AppstockNativeAssetData alloc]
        initWithType:AppstockDataAssetCtatest
        required:true
    ];

    AppstockNativeAssetData *sponsored = [
        [AppstockNativeAssetData alloc]
        initWithType:AppstockDataAssetSponsored
        required:true
    ];

    AppstockNativeParameters * parameters =
    [AppstockNativeParameters new];
    parameters.assets = @[title, icon, image, sponsored, body, cta];

    AppstockNativeEventTracker * eventTracker = [
        [AppstockNativeEventTracker alloc]
        initWithEvent:AppstockEventType.Impression
        methods:@[AppstockEventTracking.Image, AppstockEventTracking.js]
```

```

];

parameters.eventtrackers = @[eventTracker];
parameters.context = AppstockContextType.Social;
parameters.placementType = AppstockPlacementType.FeedContent;
parameters.contextSubType = AppstockContextSubType.Social;

// 4. Create a AppstockGADEExtras
AppstockGADEExtras * extras = [[AppstockGADEExtras alloc]
initWithNativeParameters:parameters];

// 5. Create a GADRequest
GADRequest * request = [GADRequest new];

// 6. Register the AppstockGADEExtras
[request registerAdNetworkExtras:extras];

// 7. Load the ad
[self.adLoader loadRequest:request];
}

```

Display the ad as described in [AdMob docs](#):

#### Swift

```

func adLoader(_ adLoader: GADAdLoader, didReceive nativeAd: GADNativeAd) {
    // Set GADNativeAd in GADNativeAdView
    admobNativeView.nativeAd = nativeAd

    // 8. Render the ad
    titleLabel.text = nativeAd.headline
    bodyLabel.text = nativeAd.body

    mainImageView.setImage(
        from: nativeAd.images?.last?.imageUrl?.absoluteString,
        placeholder: UIImage(systemName: "photo.artframe")
    )

    iconView.setImage(
        from: nativeAd.icon?.imageUrl?.absoluteString,
        placeholder: UIImage(systemName: "photo.artframe")
    )

    callToActionButton.setTitle(nativeAd.callToAction, for: .normal)
    sponsoredLabel.text = nativeAd.advertiser
}

```

#### Objective-C

```

- (void)adLoader:(GADAdLoader *)adLoader didReceiveNativeAd:(GADNativeAd *)nativeAd
{
    // Set GADNativeAd in GADNativeAdView
    self.admobNativeView.nativeAd = nativeAd;

    self.titleLabel.text = nativeAd.headline;
    self.bodyLabel.text = nativeAd.body;
    self.sponsoredLabel.text = nativeAd.advertiser;

    [self.mainImageView setImageFromURLString:nativeAd.images.lastObject.imageUrl.absoluteString
                        placeholder:[UIImage imageNamed:@"photo_placeholder.png"]];
    [self.iconView setImageFromURLString:nativeAd.icon.imageUrl.absoluteString
                        placeholder:[UIImage imageNamed:@"photo_placeholder.png"]];
    [self.callToActionButton setTitle:nativeAd.callToAction forState:UIControlStateNormal];
}

```

## Appstock SDK iOS - Mediation - AppLovin

In order to integrate Appstock AppLovin MAX Adapter into your app, add following lines to your Podfile:

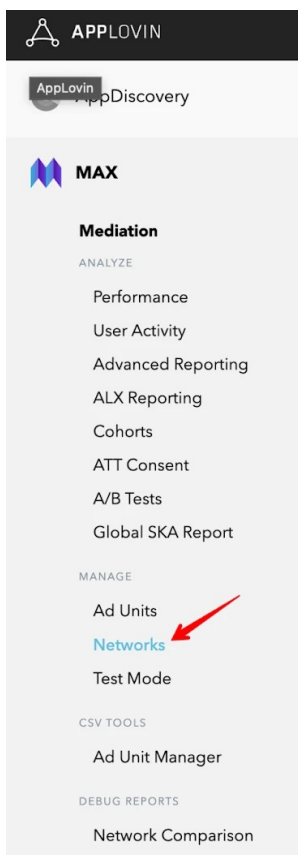
```

pod 'AppstockSDK', '1.1.0'
pod 'AppstockAppLovinMAXAdapter', '1.1.0'

```

To integrate the Appstock SDK into your AppLovin monetization stack, you should enable a Appstock SDK ad network and add it to the respective ad units.

1. In the MAX Dashboard, select [MAX > Mediation > Manage > Networks](#).

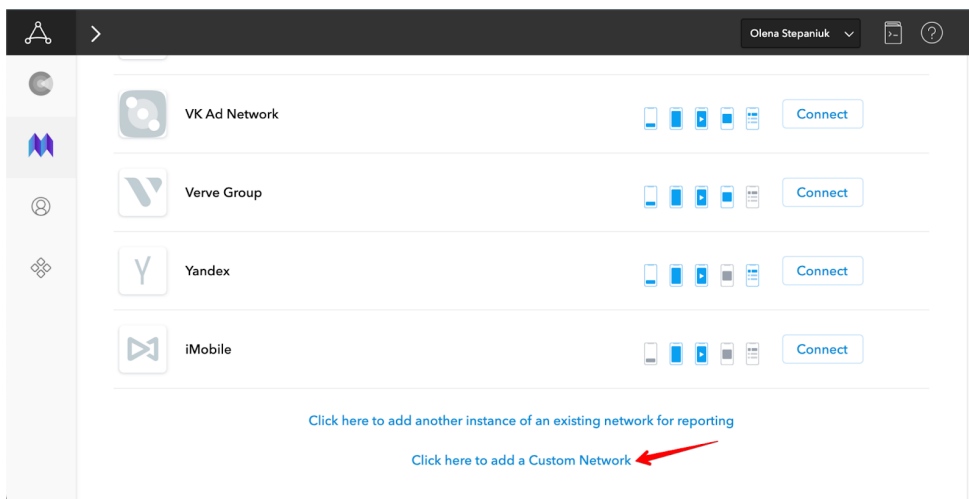


2. Click **Click here to add a Custom Network** at the bottom of the page. The **Create Custom**

**Network** page appears.

3. Add the information about your custom network:

- **Network Type** : Choose **SDK**.
- **Name** : Appstock.
- **iOS Adapter Class Name** : AppstockAppLovinAdapter



## Manage Network

Network Type

☒ SDK

Custom Network Name ⓘ

TestNetwork

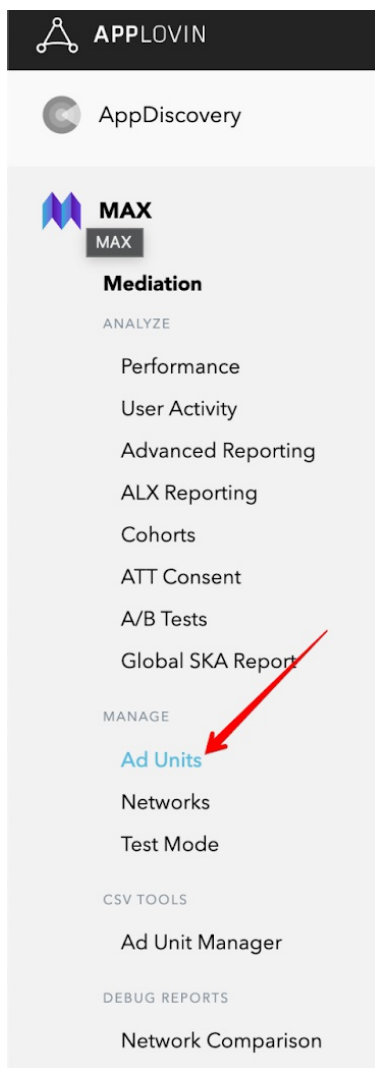
iOS Adapter Class Name

AppstockAppLovinAdapter

Android / Fire OS Adapter Class Name

4. Open [MAX > Mediation > Manage > Ad Units](#) in the MAX dashboard.





5. Search and select an ad unit for which you want to add the custom SDK network that you created in the previous step.

**MAX Ad Units**

Search and filter

Create AB Tests Create Ad Unit

Application	Ad Unit	Ad Unit ID	Ad Type	7d Earnings	Status

6. Select which custom network you want to enable and enter the information for each placement. Refer

to the network documentation to see what values you need to set for the **App ID**, **Placement ID**, and **Custom Parameters**.

Custom Network (SDK) - TestNetwork

Status ☒

App ID (optional)

Placement ID

Custom Parameters

CPM Price

Country Targeting

+ Add New Placement ID

Typically, the custom parameters field should contain a JSON that contains IDs (placement ID, endpoint ID) that will be used to load ads.

Parameters:

- **placement\_id** - unique identifier generated on the platform's UI;
- **endpoint\_id** - unique identifier generated on the platform's UI;
- **sizes** - array of the ad sizes. You can specify width in `w` field and height in `h` field. Make sure you've provided both width and height values;
- **ad\_formats** - array of the ad formats. You can pass only `banner` and `video` ad formats. Other values will be ignored. Note that the multifragment request is supported only for interstitial ads.

Example:

```
{
  "placement_id": "4",
  "sizes": [
    {
      "w": 729,
      "h": 90
    }
  ],
  "ad_formats": ["video"]
}
```

```
{
  "endpoint_id": "1",
  "sizes": [
    {
      "w": 320,
      "h": 50
    },
    {
      "w": 300,
      "h": 250
    }
  ],
  "ad_formats": ["banner"]
}
```

7. Save ad unit.

## Native Ads

---

If you integrate native ads, you should pass the native assets through AppLovin MAX SDK (`MANativeAdLoader`) to the Appstock Adapter using `AppstockAppLovinExtras` class in your app code:

### Swift

```
private func loadAd() {
    // 1. Create a MANativeAdLoader
    nativeAdLoader = MANativeAdLoader(adUnitIdentifier: adUnitId)

    // 2. Configure the MANativeAdLoader
    nativeAdLoader.nativeAdDelegate = self

    // 3. Configure the native parameters
    let image = AppstockNativeAssetImage(minimumWidth: 200,
        minimumHeight: 50, required: true)
    image.type = .Main

    let icon = AppstockNativeAssetImage(minimumWidth: 20,
        minimumHeight: 20, required: true)
    icon.type = .Icon

    let title = AppstockNativeAssetTitle(length: 90, required: true)
    let body = AppstockNativeAssetData(type: .description,
        required: true)
    let cta = AppstockNativeAssetData(type: .ctatext,
        required: true)
    let sponsored = AppstockNativeAssetData(type: .sponsored,
        required: true)

    let parameters = AppstockNativeParameters()
    parameters.assets = [title, icon, image, sponsored, body, cta]

    let eventTracker = AppstockNativeEventTracker(
        event: .Impression,
        methods: [.Image, .js]
    )

    parameters.eventtrackers = [eventTracker]
    parameters.context = .Social
    parameters.placementType = .FeedContent
    parameters.contextSubType = .Social

    // 4. Create a AppstockAppLovinExtras
    let extras = AppstockAppLovinExtras(nativeParameters: parameters)

    // 5. Set local extra parameter
    nativeAdLoader.setLocalExtraParameterForKey(
        AppstockAppLovinExtras.key, value: extras)

    // 6. Load the ad
    nativeAdLoader.loadAd(into: maNativeAdView)
}
```

### Objective-C

```
- (void)loadAd {
    // 1. Create a MANativeAdLoader
    self.nativeAdLoader = [[MANativeAdLoader alloc]
```

```

self.nativeAdLoader = [[MANativeAdLoader alloc]
initWithAdUnitIdentifier:self.adUnitId];

// 2. Configure the MANativeAdLoader
self.nativeAdLoader.nativeAdDelegate = self;

// 3. Configure the native parameters
AppstockNativeAssetImage *image = [
    [AppstockNativeAssetImage alloc]
    initWithMinimumWidth:200
    minimumHeight:200
    required:true
];

image.type = AppstockImageAsset.Main;

AppstockNativeAssetImage *icon = [
    [AppstockNativeAssetImage alloc]
    initWithMinimumWidth:20
    minimumHeight:20
    required:true
];

icon.type = AppstockImageAsset.Icon;

AppstockNativeAssetTitle *title = [
    [AppstockNativeAssetTitle alloc]
    initWithLength:90
    required:true
];

AppstockNativeAssetData *body = [
    [AppstockNativeAssetData alloc]
    initWithType:AppstockDataAssetDescription
    required:true
];

AppstockNativeAssetData *cta = [
    [AppstockNativeAssetData alloc]
    initWithType:AppstockDataAssetCtatext
    required:true
];

AppstockNativeAssetData *sponsored = [
    [AppstockNativeAssetData alloc]
    initWithType:AppstockDataAssetSponsored
    required:true
];

AppstockNativeParameters * parameters =
[AppstockNativeParameters new];
parameters.assets = @[title, icon, image, sponsored, body, cta];

AppstockNativeEventTracker * eventTracker = [
    [AppstockNativeEventTracker alloc]
    initWithEvent:AppstockEventType.Impression
    methods:@[AppstockEventTracking.Image, AppstockEventTracking.js]
];

parameters.eventtrackers = @[eventTracker];
parameters.context = AppstockContextType.Social;
parameters.placementType = AppstockPlacementType.FeedContent;
parameters.contextSubType = AppstockContextSubType.Social;

```

```

// 4. Create a AppstockAppLovinExtras
AppstockAppLovinExtras * extras = [[AppstockAppLovinExtras alloc]
initWithNativeParameters: parameters];

// 5. Set local extra parameter
[self.nativeAdLoader
setLocalExtraParameterForKey:AppstockAppLovinExtras.key value:extras];

// 6. Load the ad
[self.nativeAdLoader loadAdIntoAdView:self.maNativeAdView];
}

```

Make sure you've bound the subviews using unique tag IDs with an instance of `MANativeAdViewBinder` as described in [AppLovin MAX docs](#):

#### Swift

```

// Bind the subviews using unique tag IDs with an instance of MANativeAdViewBinder
let binder = MANativeAdViewBinder { builder in
    builder.iconImageViewTag = 1
    builder.titleLabelTag = 2
    builder.bodyLabelTag = 3
    builder.advertiserLabelTag = 4
    builder.callToActionButtonTag = 5
}

maNativeAdView.bindViews(with: binder)

```

#### Objective-C

```

MANativeAdViewBinder * binder = [
    [MANativeAdViewBinder alloc]
    initWithBuilderBlock:^(MANativeAdViewBinderBuilder * _Nonnull builder) {
        builder.iconImageViewTag = 1;
        builder.titleLabelTag = 2;
        builder.bodyLabelTag = 3;
        builder.advertiserLabelTag = 4;
        builder.callToActionButtonTag = 5;
    }
];

[self.maNativeAdView bindViewsWithAdViewBinder:binder];

```

## Appstock SDK iOS - Mediation - TopOn

In order to integrate Appstock TopOn Adapter into your app, add the following lines to your Podfile:

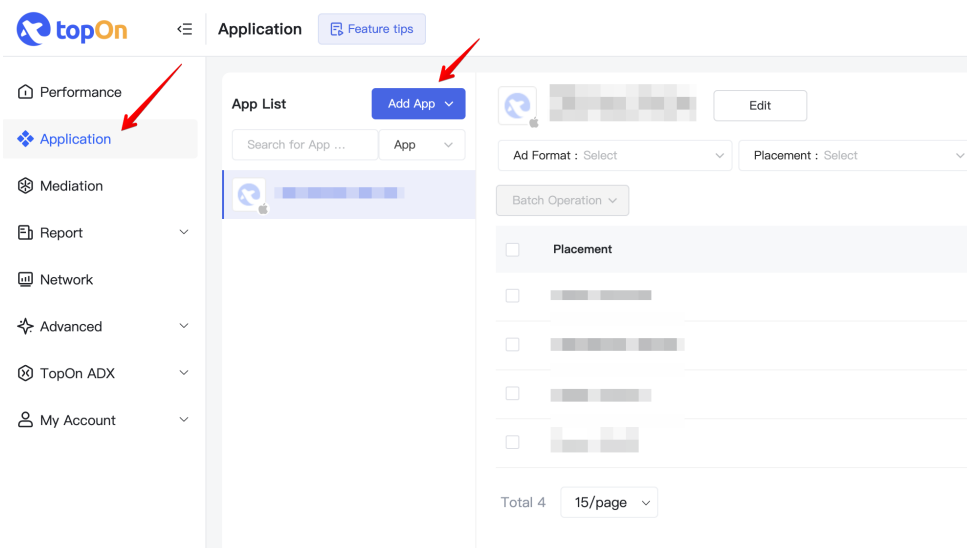
```

pod 'AppstockSDK', '1.1.0'
pod 'AppstockTopOnAdapter', '1.1.0'

```

To integrate the Appstock SDK into your TopOn monetization stack, you should create an ad network and add it to the respective ad units.

1. Register an account at [toponad.com](https://toponad.com).
2. Create an app in TopOn dashborad. Select [\[Application > Add app\]](#).



3. Fill the required information fields for your app.

**New App**×

Platform

iOS

Android

App Store

Yes

No

Download URL

optional

!

It is recommended that you fill in the Download URL of the app, otherwise it may affect the ad filling of the Bidding Ad Network

App Name

Test App

8/100

Category

App

▼

Sub-Category

Utilities

▼

Bundle ID

com.test.app

Orientation

Portrait

Landscape

Auto

Weixin Open Platform

?

App ID

Cancel

Confirm

4. Click `Confirm`.



## New Placement ×

App	→	🍏 Test App	▼
Placement Name	→	Test Banner	11/100
Ad Format	→	Banner	▼
Status		Running	▼
Note		optional	

Cancel→ Confirm

7. Select `Network` and click `+ Custom Network Firm`.

< Monetization

🏠 Performance

⚙️ Application

⚙️ Mediation

📄 Report

**🌐 Network**

🌟 Advanced

⚙️ TopOn ADX

👤 My Account

Filter by 2024-09-03 – 2024-09-03

Network : – No selection –

+ Network Account

+ Custom Network Firm

Network	Integration Type	Account	Operation
TeqBlaze	AD Network SDK	Default	<a href="#">Export Config</a> <a href="#">AD Source Setting</a>

Total 1 15/page

8. Fill `Network Firm Name`. Fill the adapter's class name:

- Interstitial - `AppstockInterstitialATAdAdapter` ;
- Banner - `AppstockBannerATAdAdapter` ;
- Native - `AppstockNativeATAdAdapter` .



### Add Custom Network Firm



Native

Example: com.customnetwork.android.native

Splash

Example: com.customnetwork.android.splash

iOS

RV

Example: CustomRewardedVideoAdapter

Interstitial

AppstockInterstitialATAdAdapter

Banner

AppstockBannerATAdAdapter

Native

AppstockNativeATAdAdapter

Splash

Example: CustomSplashAdapter

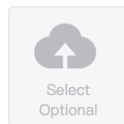
Bidding For Each Load



Opened

Closed

Icon



How to find the parameters ?

Cancel

Confirm

9. Click `Confirm`.

Add Custom Network Firm
×

Native
Example: com.customnetwork.android.native

Splash
Example: com.customnetwork.android.splash

iOS

RV
Example: CustomRewardedVideoAdapter

Interstitial
AppstockInterstitialATAdAdapter

Banner
AppstockBannerATAdAdapter

Native
AppstockNativeATAdAdapter

Splash
Example: CustomSplashAdapter

Bidding For Each Load
?

Opened
Closed

Icon

How to find the parameters ?

Cancel
Confirm

10. Open the **Mediation** tab, select the app and placement, click **Add AD source** .

topOn
Mediation
Feature tips
SDK Download

Performance
Application
Mediation
Report
Network
Advanced
TopOn ADX
My Account

Filter by
2024-09-07 ~ 2024-09-07
App :
Test App
Placement :
Test Banner
Banner

Add Segment
Default

Add AD Source
You can create a waterfall by clicking on copy ad source  
Auto Refresh: 15 Second Parallel request number: 2

Area : Select
Network : Select

Priority	Ad Source	Status	Operation	Price	Estimate eCPM	eCPM API	Estimate Revenue	Estimate Revenue Proportion	Attempts/Bids	Request	Fillrate
Total	0 AD Sources Activated	-	-	-	-	\$ 0	\$ 0	-	-	0	-
4323	TopOn ADX		Edit	Bidding	-	-	-	-	-	-	-
Inactive(0 AD Sources) Unfold											

11. Find the needed network. Add **Ad source name** and **Price** . Fill the **Custom Parameters** Custom parameters should contain a valid JSON with IDs (placement ID, endpoint ID) values that will be used by the adapter to load ads. Click **Confirm** .

Add Ad Source 1

×

Test

Q

→ Test Network

Segment Default

User Name Default

Ad Source Name Test Network\_banner\_1 21/50

Header Bidding ⑦ Yes No

Price(\$) ⑦ 1.00

Other Parameters ⑦ {"placement\_id":"4"}

SDK Json ⑦ {"placement\_id":"4"}

How to find the parameters ?

Bottom Ad ⑦

More Config ▼

Cancel Confirm

## Native Ads

If you integrate native ads, you should pass the native assets through extras to the Appstock Adapter using `kAppstockNativeAssets` key in your app code:

**Swift**

```

private func loadAd() {
    // 1. Configure the native parameters
    let image = AppstockNativeAssetImage(minimumWidth: 200, minimumHeight: 50, required: true)
    image.type = .Main

    let icon = AppstockNativeAssetImage(minimumWidth: 20, minimumHeight: 20, required: true)
    icon.type = .Icon

    let title = AppstockNativeAssetTitle(length: 90, required: true)
    let body = AppstockNativeAssetData(type: .description, required: true)
    let cta = AppstockNativeAssetData(type: .ctatext, required: true)
    let sponsored = AppstockNativeAssetData(type: .sponsored, required: true)

    let parameters = AppstockNativeParameters()
    parameters.assets = [title, icon, image, sponsored, body, cta]

    let eventTracker = AppstockNativeEventTracker(
        event: .Impression,
        methods: [.Image, .js]
    )

    parameters.eventtrackers = [eventTracker]
    parameters.context = .Social
    parameters.placementType = .FeedContent
    parameters.contextSubType = .Social

    // 2. Set up the extras
    let extra = [
        kAppstockNativeAssets: parameters
    ]

    // 3. Load the ad
    ATAdManager.shared().loadAD(
        withPlacementID: placementID,
        extra: extra,
        delegate: self
    )
}

```

### Objective-C

```

- (void)loadAd {
    // 1. Configure the native parameters
    AppstockNativeAssetImage *image = [
        [AppstockNativeAssetImage alloc]
        initWithMinimumWidth:200
        minimumHeight:200
        required:true
    ];

    image.type = AppstockImageAsset.Main;

    AppstockNativeAssetImage *icon = [
        [AppstockNativeAssetImage alloc]
        initWithMinimumWidth:20
        minimumHeight:20
        required:true
    ];

    icon.type = AppstockImageAsset.Icon;
}

```

```

AppstockNativeAssetTitle *title = [
    [AppstockNativeAssetTitle alloc]
    initWithLength:90
    required:true
];

AppstockNativeAssetData *body = [
    [AppstockNativeAssetData alloc]
    initWithType:AppstockDataAssetDescription
    required:true
];

AppstockNativeAssetData *cta = [
    [AppstockNativeAssetData alloc]
    initWithType:AppstockDataAssetCtatext
    required:true
];

AppstockNativeAssetData *sponsored = [
    [AppstockNativeAssetData alloc]
    initWithType:AppstockDataAssetSponsored
    required:true
];

AppstockNativeParameters * parameters = [AppstockNativeParameters new];
parameters.assets = @[title, icon, image, sponsored, body, cta];

AppstockNativeEventTracker * eventTracker = [
    [AppstockNativeEventTracker alloc]
    initWithEvent:AppstockEventType.Impression
    methods:@[AppstockEventTracking.Image, AppstockEventTracking.js]
];

parameters.eventtrackers = @[eventTracker];
parameters.context = AppstockContextType.Social;
parameters.placementType = AppstockPlacementType.FeedContent;
parameters.contextSubType = AppstockContextSubType.Social;

// 2. Set up the extras
NSDictionary *extra = @{
    kAppstockNativeAssets : parameters
};

// 3. Load the ad
[[ATAdManager sharedManager] loadADWithPlacementID:self.placementID
                                extra:extra
                                delegate:self];
}

```

## Appstock SDK iOS - Mediation - ironSource

In order to integrate Appstock ironSource Adapter into your app, add the following lines to your Podfile:

```

pod 'AppstockSDK', '1.1.0'
pod 'AppstockIronSourceAdapter', '1.1.0'

```

To integrate the Appstock SDK into your ironSource monetization stack, you should create an ad network and add it to the respective ad units.

1. Sign in to your [ironSource account](#).

2. Click **Apps** in the sidebar (LevelPlay -> Apps). Then click **Add app**.

The screenshot displays the Unity LevelPlay interface. On the left sidebar, the 'Apps' menu item is highlighted with a red arrow labeled '1'. Below it, the 'Mediation' sub-menu is also highlighted with a red arrow labeled '2'. The main content area is titled 'Apps' and shows a table with one app listed: 'Temp' with 3 active ad units. A red arrow labeled '3' points to the 'Add app' button in the top right corner.

App name	Status	Active ad units	S2S reward callback
Temp		3	...

3. Fill app details and click **Add app**.

## Enter App Details

☐ Live app

☒ App Not Live in the Application Store

That's ok, we will ask you to verify the application store info before you start monetizing with live ads

Temporary Name

Test App

Platform



Apple iOS



Android

### Setup Configurations

☒ New Setup

☐ Duplicate setup from another application

### ironSource network

#### COPPA

- ☒ This is a general audience app that is not directed to children
- ☐ This app is partially directed to children (a "mixed audience" app)
- ☐ This app is primarily directed to children

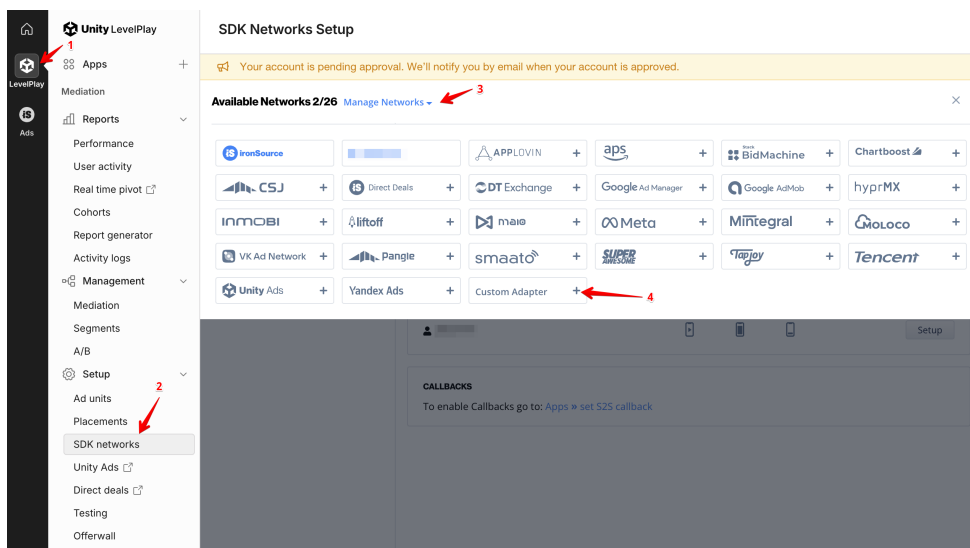
#### U.S. state privacy laws ⓘ

- ☒ Do not restrict the use of user data  
There will be no change to the way ironSource network serves ads to eligible users in California, Connecticut, Colorado, Virginia and Utah. You can selectively communicate "do not sell" settings per user when sale or sharing of that end user's personal information is not permitted through the ironSource SDK dedicated API. [Learn how »](#)
- ☐ Apply "do not sell" settings to all users

[← Back to Apps](#)

Add App

4. Click **SDK networks** in the sidebar (**LevelPlay** -> **Setup** -> **SDK networks**). Click **Manage networks** and **Custom Adapter**.



5. Enter the network key `15c03f8f1` and click **Save**.

### Custom Adapter

Network Key

15c03f8f1

Enter Key →

Cancel

Save

6. Fill your **partnerKey** for the Appstock platform and click **Save**.

### Custom Adapter

Network Name

Appstock

partnerKey

appstock-demo

Reported Revenue

☒ Rate based revenue • Revenue will be reported based on the rate you set

☐ Reporting API • Revenue will be reported based on the network's reporting API

Cancel

Save



7. Click **Setup** in the available networks list.

#### SDK Networks Setup

 Your account is pending approval. We'll notify you by email when your account is approved.

Available Networks 2/26 [Manage Networks](#)

APPLICATIONS (2)

Test App

Test App  
iOS (No Networks)

Test App

BIDDING

IronSource

CUSTOM

Appstock

Setup

CALLBACKS

To enable Callbacks go to: [Apps](#) » [set 525 callback](#)





8. Create network instances for all placements you have in the Appstock platform. Fill **placementId**, **Mediation Groups** and **Rate** for desired type of the ad. Click **Save**.

#### App Settings



Test App  
ios

Appstock

 Rewarded Video	 Interstitial	 Banner
placementId	<input type="text" value="4"/>	
Mediation Groups	<div>All Countries</div>	
Rate (Optional) 	<input type="text" value="\$ 10"/>	
<a href="#">+ Add Network Instance</a> (Up to 10 max.)		

Cancel

Save

## Appstock SDK iOS - Utils

### AppstockAdInfo

The `AppstockAdInfo` class serves as a container for metadata related to bidding, such as the bid price.

Property	Type	Description
<code>price</code>	<code>NSNumber?</code>	Bid price expressed as CPM although the actual transaction is for a unit impression only. Note that while the type indicates float, integer math is highly recommended when handling currencies.