



oculus

**Oculus Platform
Developer Guide**

Version 1.0.0.0

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Introduction

Welcome to the Oculus Platform Developer Guide.

The Oculus Platform is designed to provide you with the infrastructure you need, so you can focus on creating a great game or experience. The Oculus Platform currently provides the following features:

- Friend Management—to enable social functionality and increase engagement, this enables players to add friends and find friends that are currently online.
- Rooms—your app can create rooms where players gather or you can enable players to create them.
- Achievements—you can create trophies, badges, awards, medals, or challenges in your app and Oculus will manage it.
- Leaderboards—if your app or experience is competitive, you can create leaderboards to track the top players.
- Matchmaking—if players can't find a match, you can help them find available games. The platform supports both standard and skill-based pools.
- In-App Purchases—enables you to monetize your games and experiences.
- Peer-to-Peer Networking—enables players to communicate directly.

The Oculus Platform API is a non-blocking asynchronous API that enables you to be in control of the performance profile of your application. Your application makes API calls that are routed through the Oculus App. These calls return JSON objects that are passed back to your application. This allows you to process responses when convenient and enables Oculus to make updates and improvements with a minimal number of client side API changes.

The Platform services run on a globally distributed network of servers to ensure calls have a similar performance profile regardless of geographical location. Since API calls are essentially web calls, some of them are also available to you as secure server-to-server calls, which you can make from your backend.

Create an Organization

Before you can do anything with the Oculus Platform, you need to create or join an organization.

To create an organization, go to <https://developer2.oculus.com/organization/create> and follow the on-screen prompts.

To add yourself to an organization, ask the organization owner to go to <https://developer2.oculus.com/organization/create> and click the Members tab. Then, he or she simply has to click Add User and enter your username.

Create an App

After you create or join an organization, you can create one or more apps.

To create an app, click your username in the upper right corner and select My Apps. Then, click Create New App and follow the on-screen prompts.

After the app is created, the Platform UI displays the Builds tab. To add a build, click Update Build. To provide app metadata to the platform, click Update App Info.

Getting AppIDs

AppIDs are used to identify your app when making programmatic requests to the Oculus Platform.

To get the AppID for one of your apps:

1. Go to <https://developer.oculus.com/>.
2. Click My Apps. Your applications are displayed.
3. Hover over an app and click Overview. The information page appears.
4. Click the Platform tab.
5. Select from the following:
 - a. App ID—the ID used to initialize the SDK and make REST requests.

Giving Entitlement to an App

Creating apps is usually a collaborative process. To enable developers and coworkers to access your app without having to pay for it and to enable access before public release, you can grant entitlements.

To give a developer an entitlement to an app:

1. Go to <https://developer.oculus.com/>.
2. Click My Apps. Your applications are displayed.
3. Hover over an app and click Overview. The information page appears.
4. Click the Platform tab.
5. Click Developers.
6. Select the developers who should be granted entitlements and click Save.

Viewing App Information

The App Information page contains information that is displayed to users when they are deciding whether to download or purchase your app. This information includes information about your company, the App's genre, a description of the App, and so on.

To view information about one of your Apps:

1. Go to <https://developer.oculus.com/>.
2. Click My Apps. Your applications are displayed.
3. To view information about an App, hover over it and click Overview. The information page appears.
4. Review the information.
5. To view the image assets associated with the app, click Image Assets.
6. To view information about the build, click Build Info.

Updating Your App for Platform Features

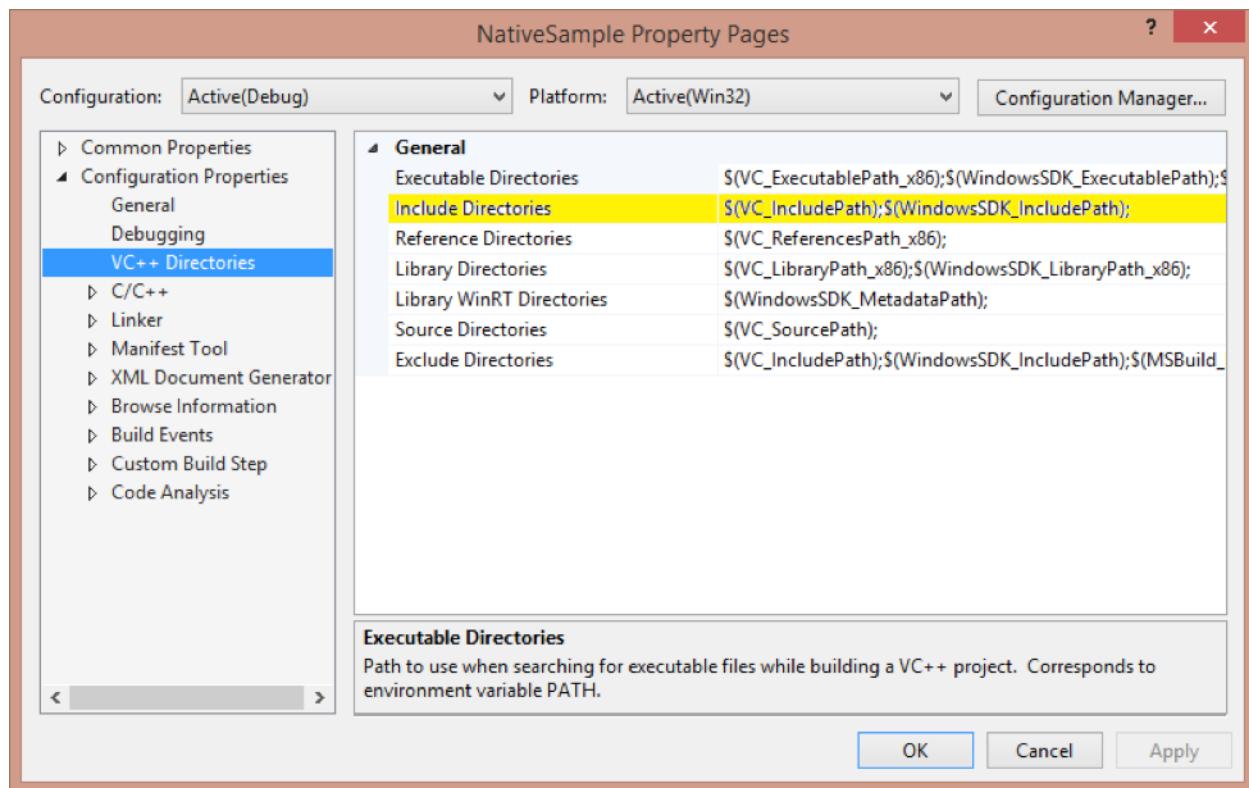
This section describes how to prepare your app or experience for the Oculus Platform features.

Adding Oculus Platform Support to Your Project

To add Oculus Platform support to your Visual C++ project:

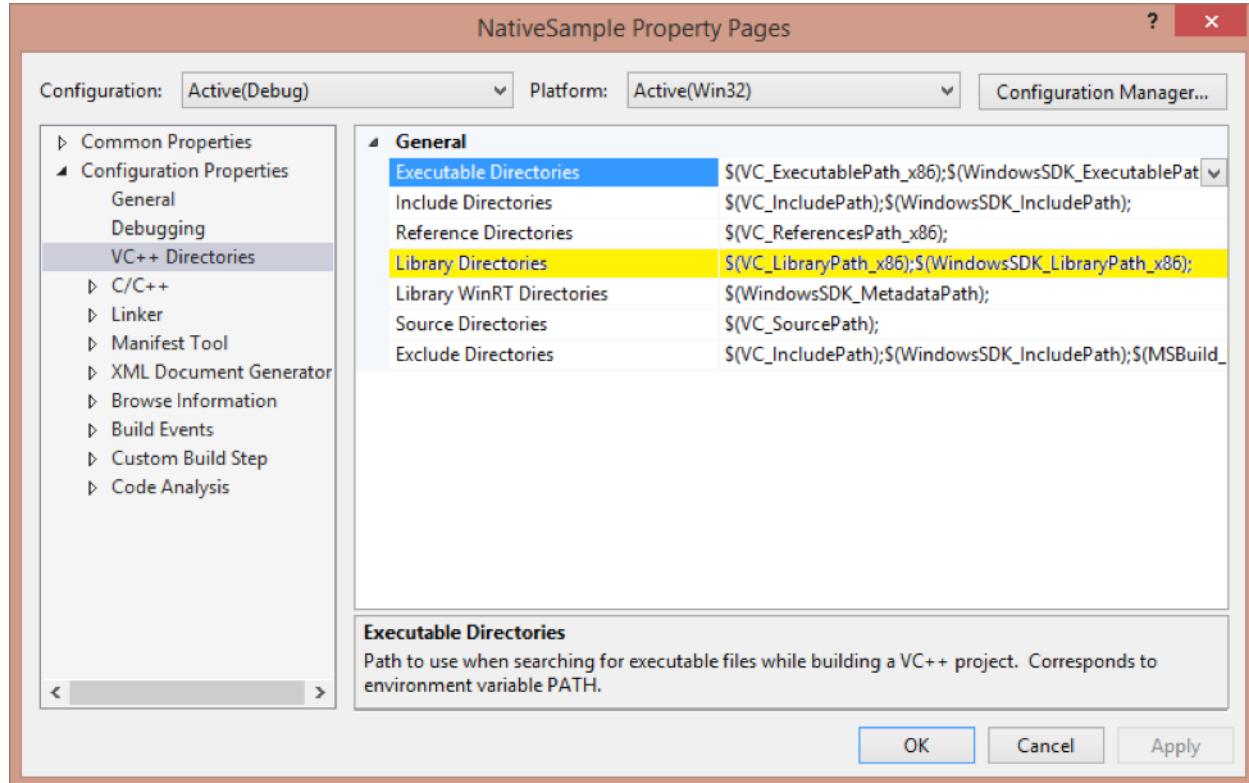
1. Open the Properties page.
2. Select VC++ Directories.
3. Add the location of the SDK includes folder (*Install\Path\include*) to Include Directories.

Figure 1: Project Property Pages



4. Add the location of the lib file (`InstallFolder\Windows`) to Library Directories.

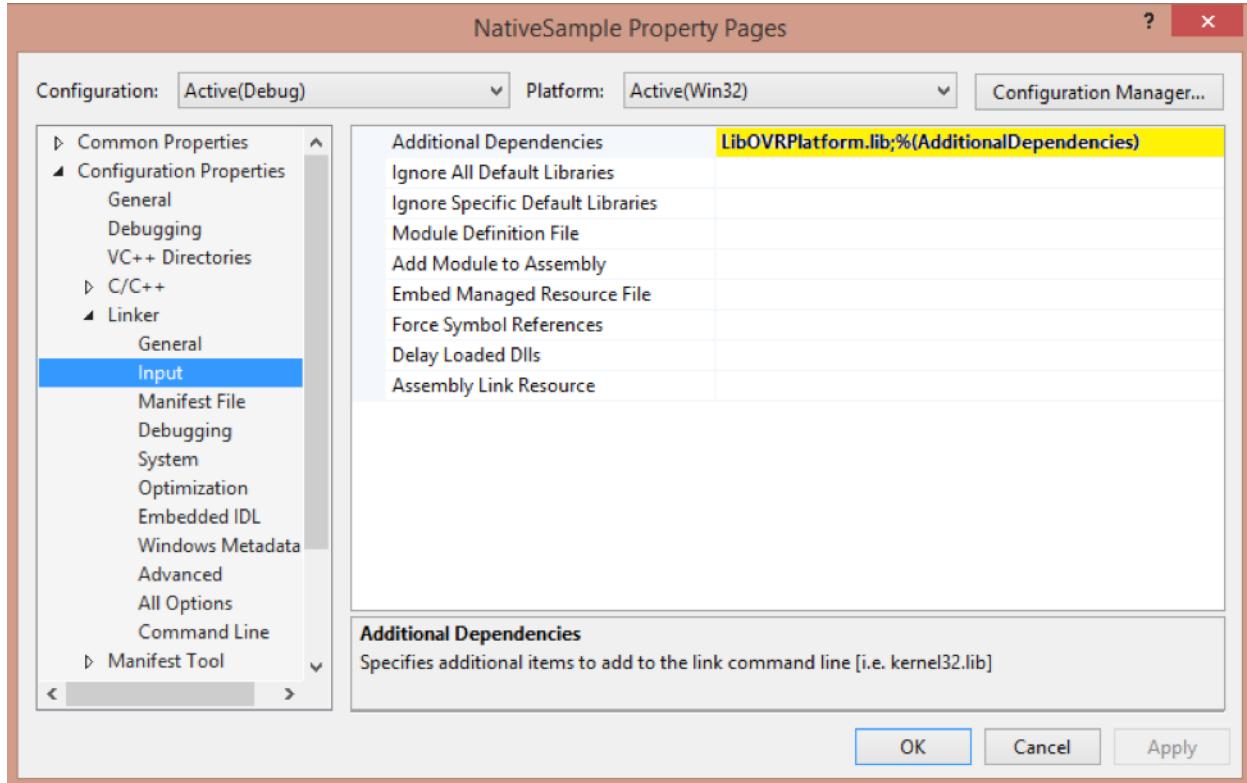
Figure 2: Project Property Pages



5. Expand Linker and select Input.

6. Add the loader library (LibOVRPlatform32_1.lib or LibOVRPlatform64_1.lib) to Additional Dependencies.

Figure 3: Project Property Pages



7. Using the DLL loader instead of direct linking enables DLL signature verification and graceful detection of the Oculus Runtime. To use the loader, drop the cpp file (`InstallFolder/Windows/OVR_PlatformLoader.cpp`) into your project.

To bypass the Loader, add this define before including OVR_Platform.

```
#define OVRPL_DISABLE
#include <OVR_Platform.h>
```

REST Requests

Depending on the type of operation, you might use the Platform UI or API.

Although many requests are made in the UI, eventually you will be able to make most of them programmatically. This section describes how to make REST requests.

Before you can make a request, make sure you have the credentials for your App. For more information, see [Getting AppIDs](#) on page 7.

Many types of requests to the API use the following format:

```
[GET/POST/DELETE] https://graph.oculus.com/app_id/api
?access_token=token|app_id|app_secret
&option_1=<option-1>
&option_2=<option-2>
```

...

where:

- `app_id`—ID of the app.
- `api`—name of the API (e.g., "leaderboards").
- `token`—Request token.
- `app_secret`—the secret key for the app.
- `option_1, option_2, ...`—options specific to the API.

The following is an example request that creates a leaderboard:

```
[POST]https://graph.oculus.com/3294569807254367/leaderboards?access_token=OC|3294569807254367|971bf33c22d4e56438900334be288e43&api_name=game-leaders&sort_order=HIGHER_IS_BETTER>
```

 Note: All requests are encrypted; only the endpoint (graph.oculus.com) is passed in the clear.

Integrating with the Oculus Platform

To ensure that your game is ready for the Oculus Store, you will need to add code that ensures each user has an entitlement for your app.

Depending on your development environment, there are different ways to verify entitlements. This section describes how to check entitlements for native C++ and Unity applications.

Native C++

This section describes how to set up your app for native C++ development.

Initializing in Production

Applications that run in a production environment and are launched from the Oculus App use a call, similar to the following, that passes in your AppID:

```
// Initialization call
if (ovr_PlatformInitializeWindows(appID) != ovrPlatformInitialize_Success)
{
    // Exit. Initialization failed which means either the oculus service isn't on the machine or
    // they've hacked their DLL
}
ovr_Entitlement_GetIsViewerEntitled();
```

Use code similar to the following to poll for a response:

```
// Poll for a response
while ((message = ovr_PopMessage()) != nullptr) {
    switch (ovr_Message_GetType(message)) {
        case ovrMessage_Entitlement_GetIsViewerEntitled:

    if (!ovr_Message_IsError(message))
    {
        // User is entitled. Continue with normal game behaviour
    }
    else
    {
        // User is NOT entitled. Exit
```

```

    }
        break;
    default:
        break;
    }
}

```

Checking Entitlement in Production

Make the following call, which will return a bool that indicates whether the user is entitled:

```
ovr_Entitlement_GetIsViewerEntitled();
```

which will result in a message returned with the results.

 Note: If you are using the legacy test token for standalone development, all entitlement checks will pass.

Modifying Your Game Loop

To modify your game loop:

1. Look for messages being sent from the platform by modifying your game loop to call `ovr_PopMessage()` in a loop until it returns null. These can be returned from a call or a notification sent from the platform.
2. When a message is received, call `ovr_Message_GetType()` to extract the message type.
3. Use `ovr_Message_IsError()` to verify if the message contains a failure or a success response.

Messages include different data, based on the type. There are several helper functions in `OVR_Platform.h` that parse the data into a convenient struct, which use the `ovr_Message_*` naming convention.

4. After processing a message, call `ovr_FreeMessage()` to clean up and prevent memory leaks.

Unity

This section describes how to set up your app for Unity development.

Initializing in Production

To initialize in Unity, use the `Initialize` method of the `Platform` object:

```
Oculus.Platform.Core.Initialize(appID)
```

Checking Entitlement in Production

To check for an entitlement:

```
Platform.Entitlement.IsUserEntitledToApplication().OnComplete(callbackMethod);
```

which will call your callback method when returning the results.

To process the results, use code similar to the following:

```

void callbackMethod (Message msg)
{
    if (!msg.IsError)
    {
        // Entitlement check passed
    }
}

```

```

        else
        {
            // Entitlement check failed
        }
    }
}

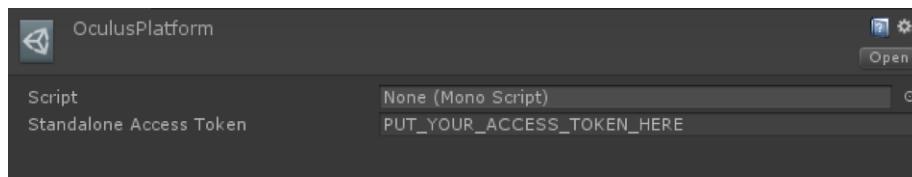
```

 Note: If you are using the legacy test token for standalone development, all entitlement checks will pass.

Initializing in the Unity Editor

For Unity, you set your test token in the Unity editor. After importing the Oculus Platform wrapper, the Oculus Platform menu item is added to the editor. Select Platform Settings and paste in your Token:

Figure 4: Unity Platform Token



Then, initialize normally:

```
Oculus.Platform.Core.Initialize(appID)
```

 Note: Make sure to give an entitlement to the user. For more information, see [Giving Entitlement to an App](#) on page 8. Make sure you are logged into the Oculus App while developing in a standalone environment.

Modifying the Game Loop

Add the following call to your Update() method to make sure your callbacks are processed:

```
Request.RunCallbacks();
```

Ownership

The Oculus Platform uses entitlements to ensure users have an entitlement to your software before they can run it.

To ensure that the user running your application is a legitimate customer, we provide a couple basic ways for you to verify the user currently owns the game. On the client side, we have a synchronous and an asynchronous call. These calls work even if the user isn't connected to the internet by using the last known cached value. We also provide a way to make a server-server call using a client-provided nonce that can't be tampered with by the client.

Is Entitled

The following function checks if the user is entitled to use the application:

```
ovr_Entitlement_GetIsViewerEntitled()
```

This function returns a boolean that specifies whether the user is entitled.

Get Cryptographic Nonce

This method is a single use; once verified with the server, it is no longer valid. The following function requests a cryptographic nonce that identifies the current user:

```
ovr_UserProof_Generate()
```

It returns the `ovrMessage_UserProof_Generate` message type. Use `ovr_Message_GetUserProof()` to parse the message into an `ovrUserProof` pointer.

Your server can validate a Nonce using a secure server-server call using an HTTP POST to the following end point:

```
[POST] https://graph.oculus.com/user_nonce_validate
?access_token=<user-access-token>
&nonce=<nonce>
&user_id=<user-id>
```

The request returns verification. For example:

```
{"is_valid":true}
```

 Note: Your current App Secret can be found on the developer portal under Platform > API. A user-generated nonce is single-use only. To test requests, Oculus recommends the Postman Chrome plugin.

Presence and Friends

In a connected world, it is important to be able to find your friends.

The Oculus platform enables users to add friends by entering their usernames or selecting them from a "recently played" list. Once added, games can access those connections and identities.

Get Logged In User

The following function returns information for the currently logged in user:

```
ovr_User_GetLoggedInUser()
```

It returns the `ovrMessage_UserGetLoggedInUser`. Use `ovr_Message_GetUser` to parse the message into an `ovrUser` pointer.

Get Currently Logged In Friends

The following function returns all friends who are currently logged in:

```
ovr_User_GetLoggedInUserFriends()
```

It returns the `ovrMessage_UserGetFriends` message type. Use `ovr_Message_GetUserArray()` to parse the message into an `ovrUserArray` pointer.

Get Information About a User

To display additional information about a user:

```
ovr_User_Get()
```

It returns the `ovrMessage_UserGet` message type. Use `ovr_Message_GetUser()` to parse the message into an `ovrUser` pointer.

Get All Friends

The following function returns all friends of the currently logged in user:

```
ovr_User_GetFriends()
```

It returns the `ovrMessage_UserGetFriends` message type. Use `ovr_Message_GetUserArray()` to parse the message into an `ovrUserArray` pointer.

Rooms

Rooms are virtual places where users can meet to chat or initiate games and experiences.

There are three types of rooms: public rooms, private rooms that only friends can join, and private rooms that are invitation only. Rooms can be moderated and initiated by your app or you can allow users to create rooms that they control.

Get Information About a Room

To have the logged in user join an existing room:

```
ovr_Room_Get()
```

It returns the `ovrMessage_RoomGet`. Use `ovr_Message_GetRoom()` to parse message into an `ovrRoom` pointer.

Join an Existing Room

To have the logged in user join an existing room:

```
ovr_Room_Join()
```

It returns the `ovrMessage_RoomJoin` message type. Use `ovr_Message_GetRoom()` to parse the message into an `ovrRoom` pointer.

Get Information About the Current Room

To get information about the current room:

```
ovr_Room_GetCurrent()
```

It returns the `ovrMessage_RoomGetCurrent` message type. Use `ovr_Message_GetRoom()` to parse the message into an `ovrUser` pointer.

Leave a Room

To have the logged in user leave the room:

```
ovr_Room_Leave()
```

It returns the `ovrMessage_RoomLeave` message type. Use `ovr_Message_GetRoom()` to parse the message into an `ovrRoom` pointer.

Create a Room

You can create a public or private room and set a maximum room size. To create a room or enable a user to create and join a room:

```
ovr_Room_CreateAndJoinPrivate()
```

It returns the `ovrMessage_RoomCreateAndJoinPrivate` message type. Use `ovr_Message_GetRoom()` to parse the message into an `ovrRoom` pointer.

Find Users to Invite

To get a list of users that are entitled to the app and can currently log in:

```
ovr_Room_GetInvitableUsers()
```

It returns the `ovrMessage_UserGetInvitableUsers` message type. Use `ovr_Message_GetUserArray()` to parse the message into an `ovrUserArray` pointer.

Invite a User to a Room

Using the list of invitible users, your app or user can invite one or more users to the room:

```
ovr_Room_InviteUser()
```

It returns the `ovrMessage_RoomInviteUser` message type. Use `ovr_Message_GetRoom()` to parse the message into an `ovrRoom` pointer.

Kick a User out of a Room

To kick a user out of a room:

```
ovr_Room_KickUser()
```

It returns the `ovrMessage_RoomKickUser` message type. Use `ovr_Message_GetRoom()` to parse the message into an `ovrRoom` pointer.

Update Room Metadata

You can add up to 2k of key/value pairs to a room. To add metadata:

```
ovr_Room_UpdateDataStore()
```

It returns the `ovrMessage_RoomUpdateDataStore` message type. Use `ovr_Message_GetRoom()` to parse the message into an `ovrRoom` pointer.

View Room Updates

The following is a platform notification that isn't triggered by a call:

```
ovrMessage_RoomUpdateNotification
```

Use `ovr_Message_GetRoom()` to parse the message into an `ovrRoom` pointer.

In-App Purchases (Gear VR)

To create in-app purchases, you create multiple items in a tab-delimited spreadsheet and make them available to your users.

Defining Purchases

The current format of the in-app purchases file is:

```
SKU Name Description Currency Amount Item Type
EXAMPLE1 Example 1 Example IAP item 1 USD 1.99 Consumable
EXAMPLE2 Example 2 Example IAP item 2 USD 1.99 Durable
```

To get the latest sample template:

1. Go to <https://developer.oculus.com/>.
2. Click My Apps. Your applications are displayed.
3. Hover over the and click Overview. The information page appears.
4. Click the Platform tab.
5. Click IAP.
6. Click Download Template.

To upload IAPs:

1. Go to <https://developer.oculus.com/>.
2. Click My Apps. Your applications are displayed.
3. Hover over the and click Overview. The information page appears.
4. Click the Platform tab.
5. Click IAP.
6. Click Upload TSV and follow the on-screen prompts.

Initiating a Purchase

The following function initiates the Oculus checkout flow for the specified SKU:

```
ovr_IAP_LaunchCheckoutFlow()
```

It returns the `ovrMessage_IAPStartCheckout`. Use `ovr_Message_GetPurchase()` to parse the message into an `ovrPurchase` pointer.

Get Products by SKU

The following function returns an array of products that match the SKU:

```
ovr_IAP_GetViewerPurchases()
```

It returns the `ovrMessage_IAPGetPurchases` message type. Use the `ovr_Message_GetPurchaseArray()` to parse the message into an `ovrPurchaseArray` pointer.

View Purchases

The following function returns purchases for the user:

```
ovr_IAP_GetViewerPurchases()
```

It returns the `ovrMessage_IAPGetProducts` message type. Use the `GetProductArray()` to parse the message into an `ovrProductArray` pointer.

Consume Purchase

The following function consumes the specified SKU:

```
ovr_IAP_ConsumePurchase()
```

It returns the `ovrMessage_IAPConsumePurchase` message type. Use the `ovr_Message_GetBoolean()` to see if the item was consumed.

REST Requests

The App access token is a string composed of `OC|$APPID|$APPSECRET`, where `$APPID` and `$APPSECRET` are per-application values that can be found on the Platform tab of the developer console.

The user access token is returned by the `ovr_AccessToken_Get()` SDK call.

To verify ownership of an IAP item:

```
[POST] https://graph.oculus.com/$APPID/verify_entitlement
?sku=<sku-to-check>
&access_token=<user-access-token>
```

The request returns verification. For example:

```
{"success":true}
```

To consume an IAP item:

```
[POST] https://graph.oculus.com/$APPID/consume_entitlement
?sku=<sku-to-consume>
&access_token=<user-access-token>
```

The request returns verification. For example:

```
{"success":true}
```

To verify consumption, repeat the previous operation. It should return false.

To view all items owned by a user:

```
[GET] https://graph.oculus.com/$APPID/viewer_purchases
?sku=<sku-to-check>
&access_token=<user-access-token>
&fields=id,item{sku}
```

The request returns an array of items, based on the fields you specified. For example:

```
{"data": [{"id": "963119010431337", "item": {"sku": "EXAMPLE1"} } ] }
```

Achievements

You can create trophies, badges, awards, medals, or challenges in your apps and Oculus will manage it.

There are currently three types of achievements: simple, count, and bitfield. Although Oculus will track and manage these achievements, your app is responsible for rendering and displaying achievements to your users.

Create Achievements

To create an achievement:

1. Go to <https://developer.oculus.com/>.
2. Click My Apps. Your applications are displayed.
3. Hover over an app and click Overview. The information page appears.
4. Click the Platform tab.
5. Click Achievements.

The Achievements page appears.

Figure 5: Achievements

Achievements				
	API Name	Type	Target	Bitfield Length
IAP	Test3	COUNT	50	
API	Test1	SIMPLE	0	
Matchmaking	foo	BITFIELD	5	5

6. Click Create Achievement.
7. Select from the following:
 - Simple—select Simple and enter the name that will be used by the API.
 - Count—select Count and enter the name and count that will trigger the achievement.
 - Bitfield—select Bitfield and enter the name, bitfield length, and the number of that must be met to be awarded the achievement.
8. Click Submit.

Get Achievement Definition

To check the definition of an achievement:

```
ovr_AchievementDefinition_GetByName()
```

It returns the `GetAchievementDefinitionArray` message type. Use `ovrMessage_AchievementDefinitionGetByName()` to parse the message into an array of `ovrAchievementDefinition` pointers.

Get Achievement Progress

To check the progress of an achievement:

```
ovr_AchievementProgress_GetByName()
```

It returns the `ovrMessage_AchievementProgressGetByName` message type. Use `ovr_Message_GetAchievementProgressArray()` to parse the message into an array of `ovrAchievementProgress` pointers.

Unlock an Achievement

To unlock an achievement:

```
ovr_AchievementProgress_Unlock()
```

It returns the `ovrMessage_AchievementProgressUnlock` message type. Use `ovr_Message_IsError()` to verify success.

Increment a Count

To increment a count achievement:

```
ovr_AchievementProgress_AddCount()
```

It returns the `ovrMessage_AchievementProgressAddCount` message type. Use `ovr_Message_IsError()` to verify success.

Add to a Bitfield

To add to a bitfield achievement:

```
ovr_AchievementProgress_AddFields()
```

It returns the `ovrMessage_AchievementProgressAddFields` message type. Use `ovr_Message_IsError()` to verify success.

Leaderboards

You can create leaderboards, update them, and view their results.

Although Oculus will manage your leaderboards, your app is responsible for rendering and displaying the results to your users.

Creating Leaderboards

Currently, leaderboards can only be created programmatically. To create a leaderboard you can make an HTTP POST request to the following web endpoint:

```
https://graph.oculus.com/<appid>/leaderboards?access_token=OC|<appid>|
<app_secret>&api_name=<leaderboard_name>&sort_order=<HIGHER_IS_BETTER||LOWER_IS_BETTER>
```

To obtain your credentials, see [Getting AppIDs](#) on page 7.

Writing to a Leaderboard

To write to a leaderboard:

```
ovr_Leaderboard_WriteEntry()
```

It returns the `ovrMessage_LeaderboardWriteEntry` message type. Use `ovr_Message_GetLeaderboardUpdateStatus()` to parse the message into a `ovrLeaderboardUpdateStatus` pointer.



Note:

Extradata is 2KB of space that can be used for game specific information.

This will only update if the current score is better than the previous score, unless `forceUpdate` is true.

Get Leaderboard Entries

To retrieve leaderboard entries for a leaderboard:

```
ovr_Leaderboard_GetEntries()
```

It returns the `ovrMessage_LeaderboardGetEntries` message type. Use `ovr_Message_GetLeaderboardEntryArray()` to parse the message into an `ovrLeaderboardEntryArray` pointer.

Use `ovr_Leaderboard_GetNextEntries()` and `ovr_Leaderboard_GetPreviousEntries()` to paginate through results

REST Requests

The App access token is a string composed of `OC|$APPID|$APPSECRET`, where `$APPID` and `$APPSECRET` are per-application values that can be found on the Platform tab of the developer console.

The user access token is returned by the `ovr_AccessToken_Get()` SDK call. To get the user ID:

```
[GET] https://graph.oculus.com/me
?access_token=<access-token>
```

The request returns the ID of the user. For example:

```
{"id": "1095130347203668"}
```

To create a new leaderboard programmatically:

```
[POST] https://graph.oculus.com/$APPID/leaderboards  
?access_token=<access-token>  
&api_name=<leaderboard-name>  
&sort_order={HIGHER_IS_BETTER | LOWER_IS_BETTER}
```

The request returns the ID of the leaderboard. For example:

```
{"id": "1074233745960170"}
```

To get the ID of a leaderboard, using the leaderboard name:

```
[GET] https://graph.oculus.com/$APPID/leaderboards  
?access_token=<access-token>  
&api_name=<leaderboard-name>
```

The request returns the ID of the leaderboard. For example:

```
{"id": "1074233745960170"}
```

To delete a leaderboard:

```
[DELETE] https://graph.oculus.com/<leaderboard-id>
```

The request returns the status. For example:

```
{"success": true}
```

 Note: Once deleted, a leaderboard cannot be recovered.

Matchmaking

For multiplayer games, you can create matchmaking pools that help users find each other and start a game.

There are two types of pools: standard pools and skill pools.

When you create a new pool you will have the following options to set:

- Pool key—unique text string that identifies the matchmaking pool in your app.
- Mode—current available modes are:
 - Bout—head-to-head pool where all clients queue alone.
 - Room—pool where clients can queue alone or a client can create a room to queue.
- Skill pool—the rating used to creating matches. This can be set to none for matchmaking that doesn't use skill as a matching factor.
- Data Settings—filters you can use with matchmaking queries to limit the matches. Current filter types include:
 - String—defines a set of string values that are valid inputs.
 - Double.
 - Integer.

Skill pools have the following additional options:

- Luck factor—how much luck is a factor in the results of a game.
- Draw probability—initial estimate of how often, between 0.0 and 1.0, a draw occurs between players of equal skill.

Find a Pool

To cancel a search:

```
ovr_Matchmaking_Cancel()
```

If successful, it returns the `ovrMessage_MatchmakingBrowse` message type. Use `ovr_Message_GetRoom()` to parse the message into an `ovrRoomArray` array.

Cancel a Pool Search

To return a list of matchmaking rooms in the current pool, filtered by skill and ping (if enabled):

```
ovr_Matchmaking_Browse()
```

You receive the following message the search is canceled:

```
ovrMessage_Matchmaking_Cancel
```

Create Pools

To create a pool:

1. Go to <https://developer.oculus.com/>.
2. Click My Apps. Your applications are displayed.
3. Hover over an app and click Overview. The information page appears.

4. Click the Platform tab.
5. Click Matchmaking.

The Matchmaking page appears.

6. Click Create Pool.

The Create Matchmaking Pool dialog box appears.

Figure 6: Create Matchmaking Pool

Pool Key

Non-user-facing alphanumeric/underscore key you'll pass into all your endpoints to use this configuration.

Sample_Key_1

Mode

Bout: A room will be created when the match begins and destroyed when it ends. All matchable parties come from the same pool. Browse: The user is searching for a matching room from a pool of available ones, multiple options returned. Room: There are two pools of candidates: room hosts and parties looking for rooms. Use this where the room itself has interest, or when it outlives a group of players.

Select the Mode

Skill Pool

If you want skill-based matchmaking, specify the skill pool within which users will be ranked.

Select a Skill Pool

Should Consider Round Trip Time?

Does your game care about peer-to-peer latency?

Yes

No

Data Settings

In order for matchmaking to help clients find good results the system needs to know a bit about the constraints you'd want to filter on. We support named int, double, and string filters (where strings support a pre-set list of values). Note: once added filters can not be removed or have their type changed. Some examples: a key game_mode might map to a string type with the List<4v4, 2v2, CaptureTheFlag> or a key game_length_in_minutes might be an int type. These filters can then be used through the enqueue methods on the SDK.

Key	Type	String Options
Add Data Setting		

Cancel
Submit

7. Configure the pool settings.

8. Click Submit.

Create a Room for a Matchmaking Pool

To create a room for a matchmaking pool:

```
ovr_Matchmaking_CreateRoom()
```

The client automatically joins the room on success. It returns the `ovrMessage_MatchmakingCreateRoom` message type. Use `ovr_Message_GetRoom()` to parse the message into an `ovrRoom` pointer.

Queue for a Matchmaking Pool

To request to queue a user into a matchmaking pool:

```
ovr_Matchmaking_Enqueue()
```

It returns the `ovrMessage_MatchmakingEnqueue` message type. Use `ovr_Message_IsError()` to parse the message for success or failure.

Receive Match Notification

You receive the following message when a match is found:

```
ovrMessage_MatchmakingMatchFoundNotification
```

Use `ovr_Message_GetRoom()` to parse the message into an `ovrRoom` pointer.

The user is not automatically joined to the room. You must join using `ovr_Room_Join()`.

Start Match (Rated Pools Only)

To indicate that a match started:

```
ovr_Matchmaking_StartMatch()
```

It returns the `ovrMessage_MatchmakingStartMatch` message type. Use `ovr_Message_IsError()` to parse the message for success or failure.

Submit Results (Rated Pools Only)

To submit the results of a match for a given roomID:

```
ovr_Matchmaking_ReportResultInsecure()
```

It returns the `ovrMessage_MatchmakingReportResultInsecure` message type which contains a set of key-value pairs for each user in the match where the key is the user ID and the value is the final ranking in the match. Use `ovr_Message_IsError()` to parse the message for success or failure.

P2P

Users can send messages to each other through peer-to-peer (P2P) networking.

You can choose between reliable messages and unreliable messages. The following is an example of a P2P message exchange session:

1. Your application sends a message from Alice to Bob using `ovr_Net_SendPacket()`.
2. Bob's application polls for messages and receives `ovrMessage_NetworkingPeerConnectRequest`.
3. Your application displays a prompt to Bob. Bob agrees to connect.
4. Because Alice included a message, your application parses the message using `ovr_Net_ReadPacket()` and `ovr_Packet_GetBytes`, which it then displays to Bob. Your application frees memory used by the message with `ovr_Packet_Free()`.
5. Alice is requesting donations for her ferret rescue foundation.
6. Bob closes the message and connection. Your application closes the connection using `ovr_Net_Close()`.

Open Connection

The following function attempts to open a connection with a user:

```
ovr_Net_Connect(const char* peerID, ovrSendPolicy policy)
```

It sends a `ovrMessage_NetworkingPeerConnectRequest` to the specified user ID. It returns a `ovrMessage_NetworkingPeerConnectionStateChange` when the connection is established.

 Note: `ovr_Net_SendPacket()` still implicitly connects. However, it does not buffer messages in unreliable mode. `ovr_Net_Connect()` allows the application to delay sending messages until an actual connection is established.

Send Message

The following function sends data to the specified user ID:

```
ovr_Net_SendPacket()
```

It sends a `ovrMessage_NetworkingPeerConnectRequest` to the specified user ID.

Open Connection

Opens a connection with the specified user ID:

```
ovr_Net_Accept()
```

It sends a `ovrMessage_NetworkingPeerConnectRequest` to the specified user ID.

This should be called after receiving a `ovrMessage_NetworkingPeerConnectRequest`.

Close Connection

Closes a connection with the specified user ID:

```
ovr_Net_Close()
```

Read Packet

Reads a received packet, if available:

```
ovr_Net_ReadPacket()
```

It returns the `ovrMessage_ReadPacket` message type. Use `ovr_Packet_GetSenderID()` to get the sender ID, `ovr_Packet_GetSize` to get the size of the packet, or `ovr_Packet_GetBytes` to get the contents of the packet.

Free Memory

After you parse the message, free the memory used by the packet:

```
ovr_Packet_Free()
```

Connection State Change

You receive the following message any time a connection state changes:

```
ovrMessage_NetworkingConnectionStateChange
```

Valid states include `ovrPeerState_Unknown`, `ovrPeerState_Connected`, and `ovrPeerState_Timeout`.

Use `ovr_Message_GetNetworkingPeer()` to extract the ID of the sender.

`Timeout` indicates a client is unreachable or has rejected a connection.

Connection Request

This message is received when a user receives a connection request:

```
ovrMessage_NetworkingPeerConnectRequest
```

Use `ovr_Message_GetNetworkingPeer()` to extract the ID of the sender.

Build Channels

The Oculus Platform supports release management through build channels, so you can guide your game or experience through different testing and release stages.

The Oculus Platform provides four build channel stages:

- Alpha
- Beta
- Release Candidate (RC)
- Live

You can upload different versions of your app and make it available to different groups of testers in each channel.

After your app is available in the store, any new builds that you promote to the Live channel are automatically pushed to users that have the app or download the app.

Viewing Build Channels

You can view the state of your build channels at any time.

To view build channels for an app:

1. Go to <https://developer.oculus.com/>.
2. Click My Apps. Your applications are displayed.
3. Hover over an app and click Overview. The information page appears.

4. Click the Builds tab. The Platform UI displays each build channel, the version of its build, a version code, subscribed users, and the date the version was last updated.

Figure 7: Build Channels

Channel	Version Name	Version Code	Subscribed Users	Date Updated
LIVE	2.4.0	12	0 Users +	Dec 22, 2015 (1:43pm)
RC			0 Users +	
BETA	2.2.4	10	0 Users +	Nov 06, 2015 (6:21pm)
ALPHA	2.2.4	10	0 Users +	Nov 06, 2015 (6:21pm)

Uploading a Binary

You can upload a binary into any build channel.

As you are developing and testing your app, it moves from Alpha, to Beta, to RC, and finally to Live. The first time it is set to Live, it will be submitted to the Oculus Store Team for review. After the Oculus Store Team approves it, all future updates immediately deploy to users without review.

To upload a binary:

1. Make sure your manifest file is correct and that the install location is set correctly. For more information, see the [Publishing documentation](#).
2. Go to <https://developer.oculus.com/>.
3. Click My Apps. Your applications are displayed.
4. Hover over an app and click Overview. The information page appears.
5. Click the Builds tab.
6. Locate the channel where you want to upload the file, click the ... button, and select Upload New Binary. You are prompted to upload the file.
7. Follow the on-screen prompts.

Migrating a Build

After verifying a build, you can migrate it to another build channel.

When migrating, the binary is not deleted from the old channel. To migrate a binary to another build channel:

1. Go to <https://developer.oculus.com/>.
2. Click My Apps. Your applications are displayed.
3. Hover over an app and click Overview. The information page appears.
4. Click the Builds tab.
5. Locate the channel where you want to upload the file, click the ... button, and select Migrate to Another Channel. You are prompted to select another channel.
6. Select the channel and click Migrate. The binary is copied to the new channel and the old binary is deleted (if present).

 Note: To move a binary to production, simply select the Live channel. The first time it is set to Live, it will be submitted to the Oculus Store Team for review. After the Oculus Store Team approves it, all future updates immediately deploy to users without review.

Adding Users

Depending on your release process, you can add different users to each build channel.

You can add a user to multiple build channels; currently, the user will see the highest version.

To add a user:

1. Go to <https://developer.oculus.com/>.
2. Click My Apps. Your applications are displayed.
3. Hover over an app and click Overview. The information page appears.
4. Click the Builds tab.
5. Locate the channel to which you want to add users and click the + button. You are prompted to add a user.
6. Enter the email address of a registered Oculus user and click Add User. The user is added.
7. Repeat this process for each user to add.