

# Cloud Application Rendering

## FAQs

### Product Documentation



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# FAQs

## CAR Basics

Last updated : 2024-01-26 12:02:42

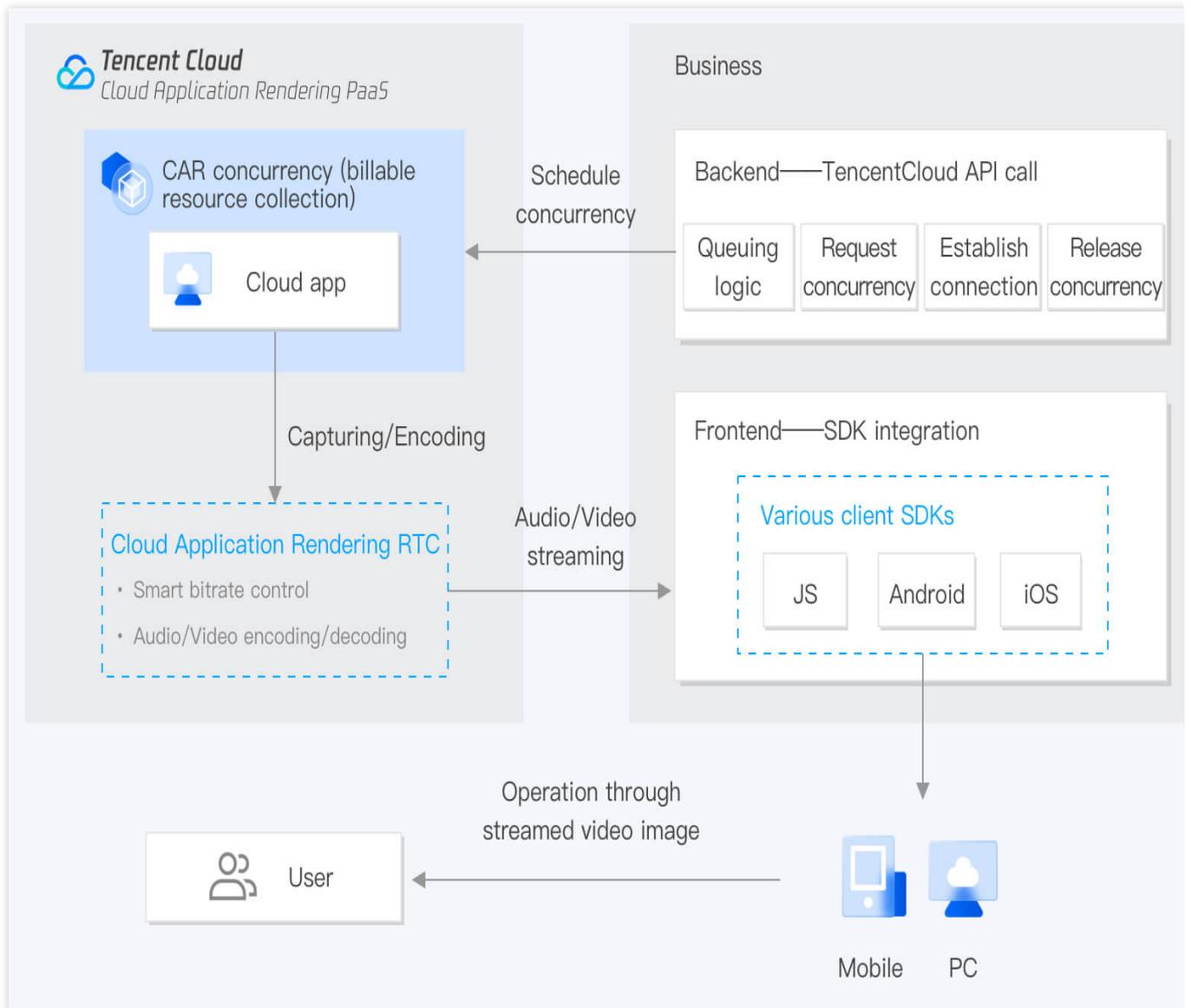
### Getting Started

#### **What is cloud rendering technology?**

Cloud rendering technology allows you to run your application client (application with an engine such as UE or Unity) on cloud computing resources while end-users access and interact with the application through a video stream.

#### **What development steps should I take to integrate CAR PaaS?**

Connect to TencentCloud APIs on the backend and integrate the SDK on the business frontend.



### Does CAR support on-premises deployment?

No, on-premises deployment isn't supported.

## Billing

### Can a CAR concurrency pack be upgraded?

Currently, the configuration of a CAR concurrency pack cannot be upgraded after it's purchased. If you want an upgraded concurrency pack, you can **return the concurrency pack first and then purchase a different one**.

# CAR Integration

## Integration

Last updated : 2024-09-27 18:42:08

### What preparations should I make before integration?

See [Getting Started](#) and [Integration Demo](#).

### Does the `Region` parameter in CAR TencentCloud APIs indicate the concurrency pack region?

No. `Region` is a common parameter of CAR TencentCloud APIs and does not need to be specified, as CAR will select the optimal access region based on `UserIP`.

### Can I get the public IP of the CAR resources to implement access allowlists or other features?

No. The public IP provided by CAR is not fixed, so you need to open UDP port 8000 to all source IPs. If there are no special security problems, we recommend you open all UDP ports.

### Does CAR support a user queue?

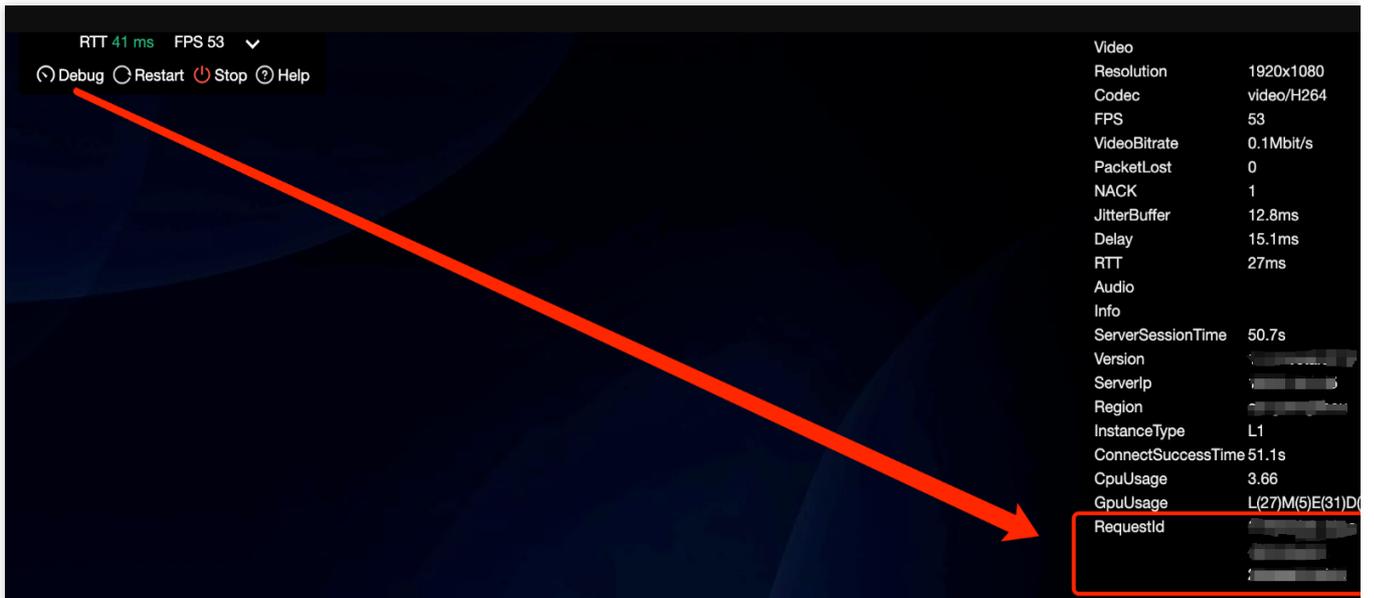
The queue page of CAR needs to be developed by you. For more information, see [Queue Feature](#).

### What do `UserId` and `RequestId` mean respectively?

`UserId` is the custom unique user identifier passed in to CAR, such as `user123456`. After CAR receives the requested TencentCloud API, it will return a `RequestId`, such as `01fdc815-c4e7-4642-819e-a011856dfd5a1`.

### How do I view `RequestId` ?

If you are using a test or quick launch link, you can open the debug panel ( `Ctrl+~` ) in the toolbar displayed on the application's main page and view the `RequestId` information at the bottom.



If you use Chrome DevTools, you can get the `RequestId` of `CreateSession` on the **Network** tab.

If you have [integrated the CAR SDK](#), the returned values of the TencentCloud API include `RequestId`. We recommend you record it on the business backend.

## How do I view network, CPU/GPU usage, etc.? How to select an appropriate concurrency specification?

You can open the debug panel ( `Ctrl+~` ) in the toolbar on the [Test](#) or [Quick Launch](#) page. You should pay attention to the following:



**FPS (frame rate):** In normal cases, the frame rate should be kept above 30. If you find that the frame rate suddenly drops when you enter certain scenes or perform certain operations, it may be due to a sudden increase in GPU computing power consumption that exceeds the capacity of the current concurrency specification and results in frame drop. In this case, we recommend you try using a higher concurrency specification.

**RTT (round-trip time):** When the RTT value exceeds 100 ms, it may result in noticeable latency. We recommend you first check for local network jitter. You can try accessing over a 4G/5G network. Additionally, if the concurrency region is too far from your physical location, it can also result in high RTT.

**Region:** The region where the concurrency is located. **CAR can automatically schedule the nearest available concurrency based on the IP address of the end user.** If you find that the concurrency region is too far away, it may be due to insufficient number of available concurrencies that are closer to the end user. You can contact us for assistance.

**InstanceType (concurrency specification):** CAR supports four concurrency specifications: S, M, L, and XL, which are suitable for rendering small, medium-sized, large, and extra large applications. For details, see the official billing documentation. If your application requires high computing power but is using a lower concurrency specification, it may lead to high CPU/GPU usage, causing lags or forced quits.

**CpuUsage:** If you notice a drop in FPS data, check if there is a CPU usage of 90-100%. If so, the current concurrency specification is insufficient. Try using a higher concurrency specification.

**GpuUsage:** Pay attention to the value of L (load). If you notice a drop in FPS data, check if there is an L value of 90-100%. If so, the current concurrency specification is insufficient. Try using a higher concurrency specification.

**RequestId:** If you have any questions, try to persist in connecting and contact us with the `RequestId`.

## What are the URL parameters for the link generated via the test or quick launch feature?

CAR provides an [experience webpage](#) to facilitate rapid testing and deployment. You can generate different access passwords for different applications and projects. Moreover, this experience URL supports a range of parameters, for example:

```
https://ex-cloud-gaming.crtrcloud.com/cloud_gaming_web/demo/index.html?
env=intl&password=0IY50F8C&livepush=1
```

This link ends with three parameters: `env`, `password`, and `livepush`. You may add other parameters based on your needs. A detailed description of the parameters is as follows:

URL Parameter	Description
env	Used to specify an experience environment. Do not modify or delete this parameter to avoid affecting normal use.
password	Password, which is generated through <a href="#">Test/Quick Launch</a> in the console. Once provided, it automatically fills the password field with no manual input required, but you will not directly enter the application experience interface.

Not provided: No password is provided beforehand, and the password input interface will not be skipped.

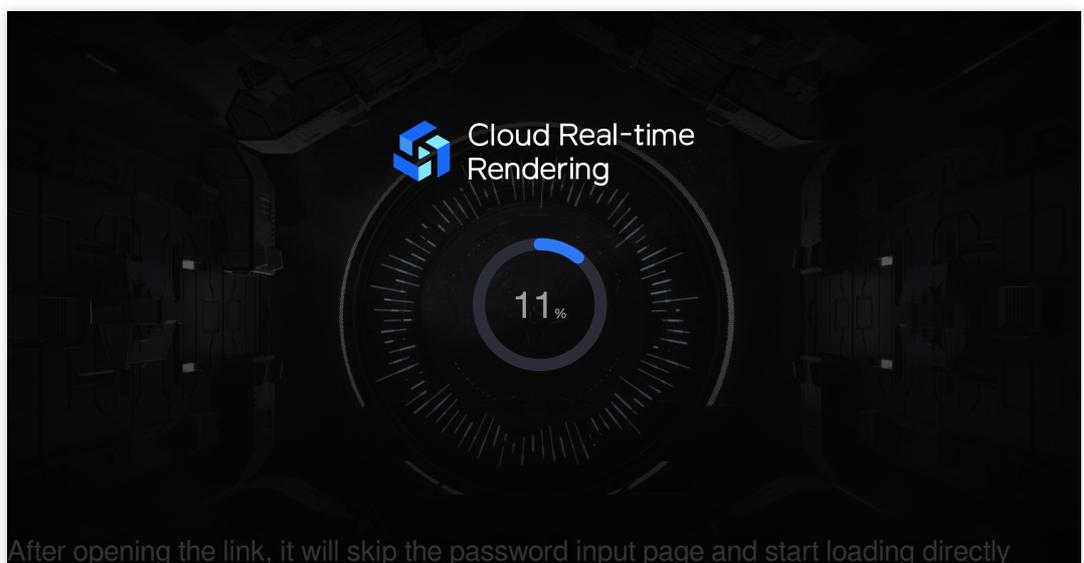
Provided: For example, `https://ex.cloud-gaming.myqcloud.com/cloud_gaming_web/demo/index.html?env=intl&password=123456`. The password 123456 will be automatically entered, but you will not directly enter the application experience interface. You need to manually click Start.



Password, which is generated through [Test/Quick Launch](#) in the console. Once provided, it automatically fills the password field and you directly enter the application experience interface. Not provided: No password is provided beforehand, and the password input interface will not be skipped.

Provided: For example, `https://.../demo/index.html?code=123456`. The password 123456 will be automatically entered and you will directly enter the application experience interface.

code

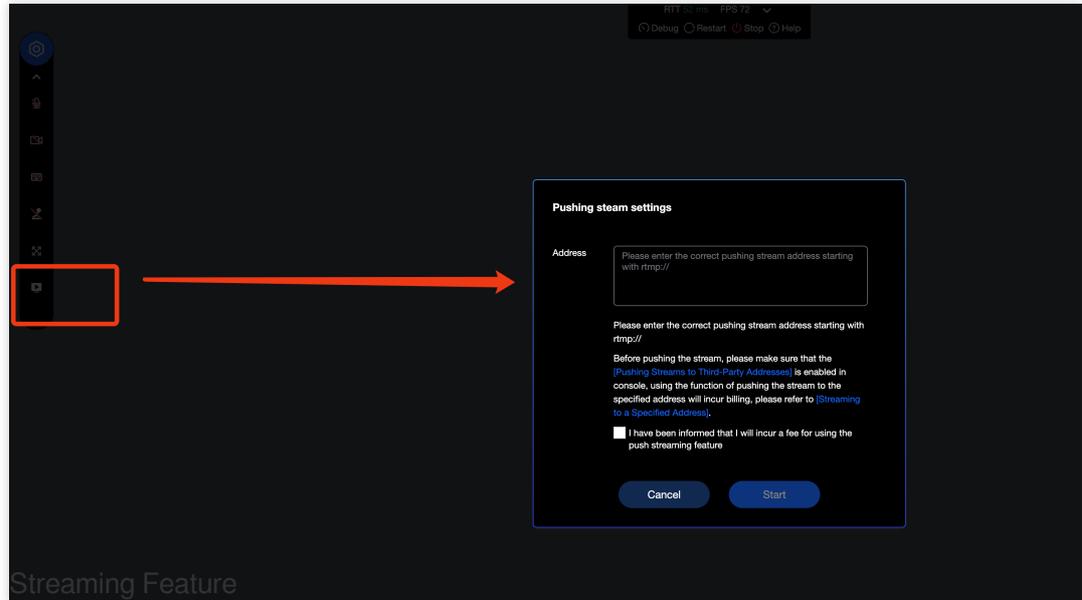


livepush

The streaming feature, which can push a cloud rendering image to a specified address. Before using this feature, you need to enable [Stream Push Service - Pushing Streams to Third-Party Addresses](#) in the console, and fees will be incurred. See [Billing](#) for details.

1: Display the streaming feature in the toolbox. Example: `https://.../demo/index.html?para1=xxx&para2=xxx&livepush=1`

Not provided: The streaming feature will not be displayed in the toolbox.



Streaming Feature

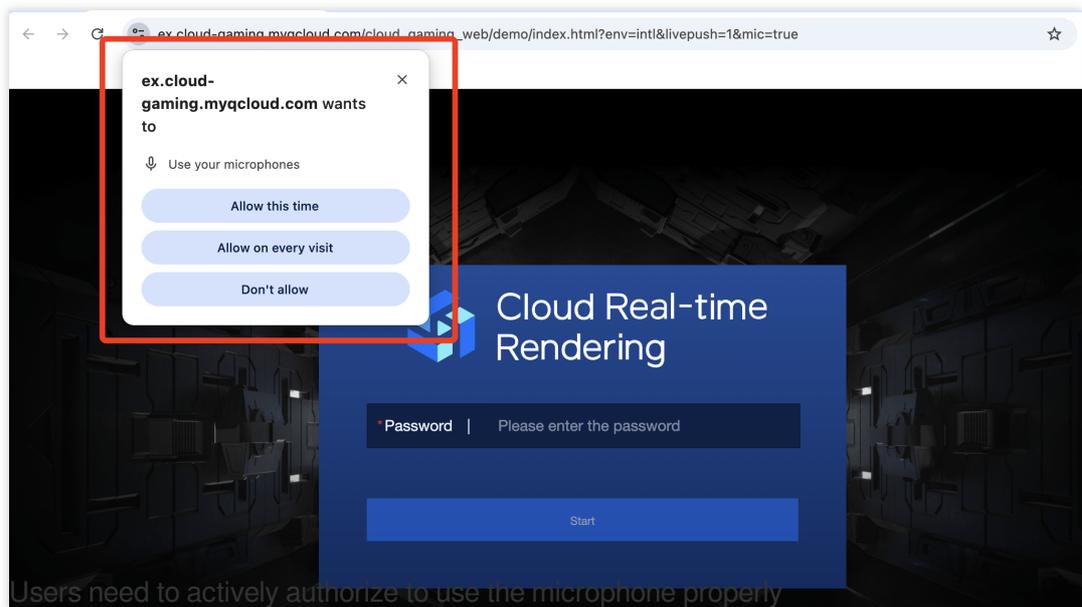
Microphone uplink feature.

true: Enable the microphone, and capture users' microphone sound and transmit it to the cloud.

Example: `https://.../demo/index.html?para1=xxx&para2=xxx&mic=true`

false (default): Disable the microphone.

mic



Users need to actively authorize to use the microphone property

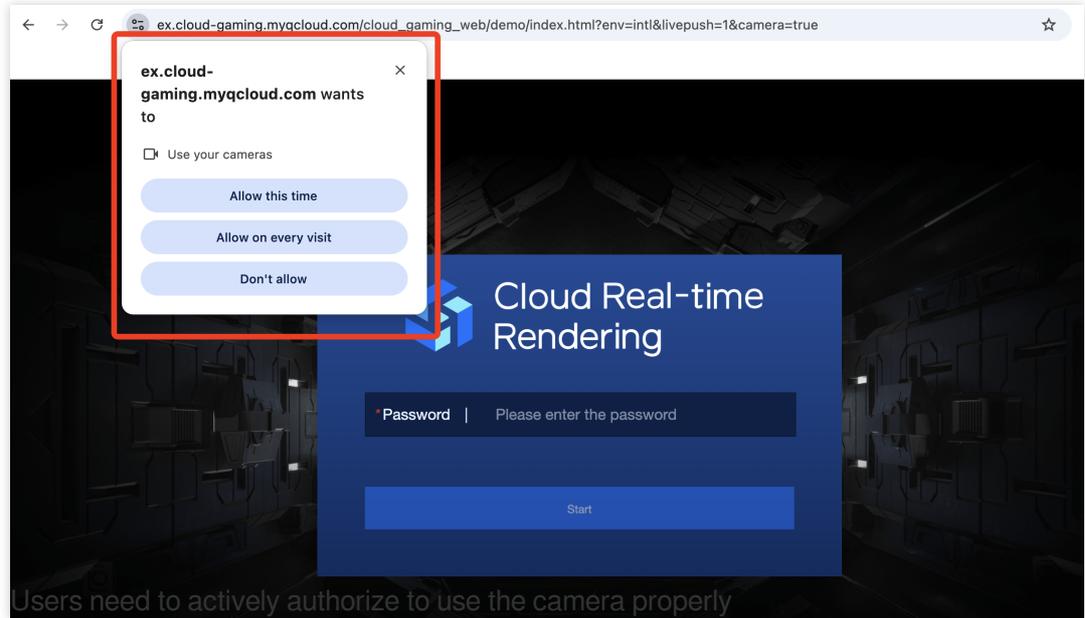
camera

Whether to enable a local camera.

true: Enable the camera, and capture users' camera data and transmit it to the cloud. Example:

```
https://.../demo/index.html?para1=xxx&para2=xxx&camera=true
```

false (default): Disable the camera.



interact

Cloud application interaction mode.

touch: Transmit touch operations of mobile users as touch events to a cloud application (the application itself needs to support operation through touch events). Example:

```
https://.../demo/index.html?para1=xxx&para2=xxx&interact=touch
```

cursor (default): Transmit touch operations of mobile users as keyboard and mouse events to a cloud application.

**Note:**

This parameter is recommended for use on mobile devices only. Setting this parameter on a PC will cause the mouse to lock.

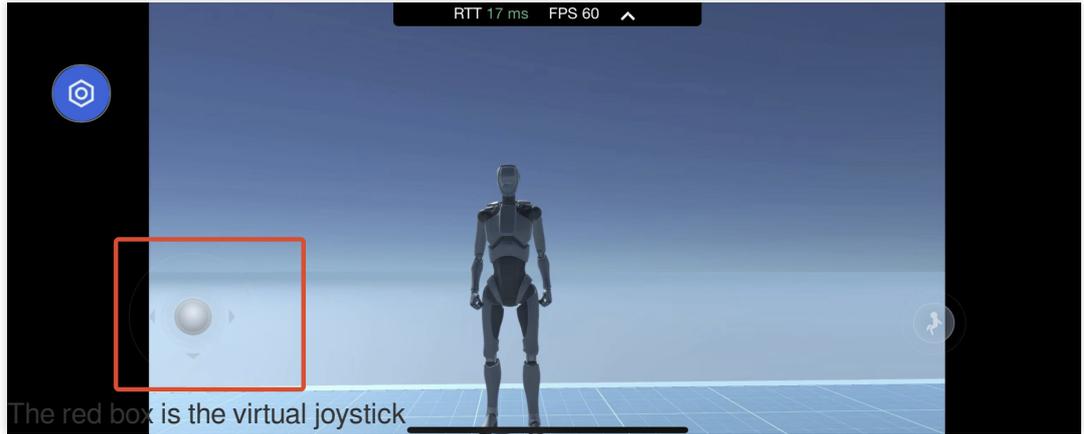
joystick

Whether to display a virtual joystick (convert touch events to keyboard WASD events and transmit them to a cloud application).

show: Display the joystick. Example: `https://.../demo/index.html?`

```
para1=xxx&para2=xxx&joystick=show
```

Not provided: Do not display the joystick.



**Note:**

This parameter is recommended for use on mobile devices only.

dpad

Whether to display a jump button (convert touch events to keyboard space key events and transmit them to a cloud application).

show: Display the jump button. Example: `https://.../demo/index.html?para1=xxx&para2=xxx&dpad=show`

`para1=xxx&para2=xxx&dpad=show`

Not provided: Do not display the jump button.



**Note:**

This parameter is recommended for use on mobile devices only.

settingbar

Whether to display a toolbox.

hide: Hide the toolbox. Example: `https://.../demo/index.html?para1=xxx&para2=xxx&settingbar=hide`

`para1=xxx&para2=xxx&settingbar=hide`

close: Show the toolbox and collapse it by default.

open (default): Show the toolbox and expand it by default.



The red box is the toolbox

Whether to display the RTT (latency) and FPS (frame rate) information bar.  
 hide: Hide the information bar. Example: `https://.../demo/index.html?para1=xxx&para2=xxx&latency=hide`  
 Not provided: Display the information bar.

latency

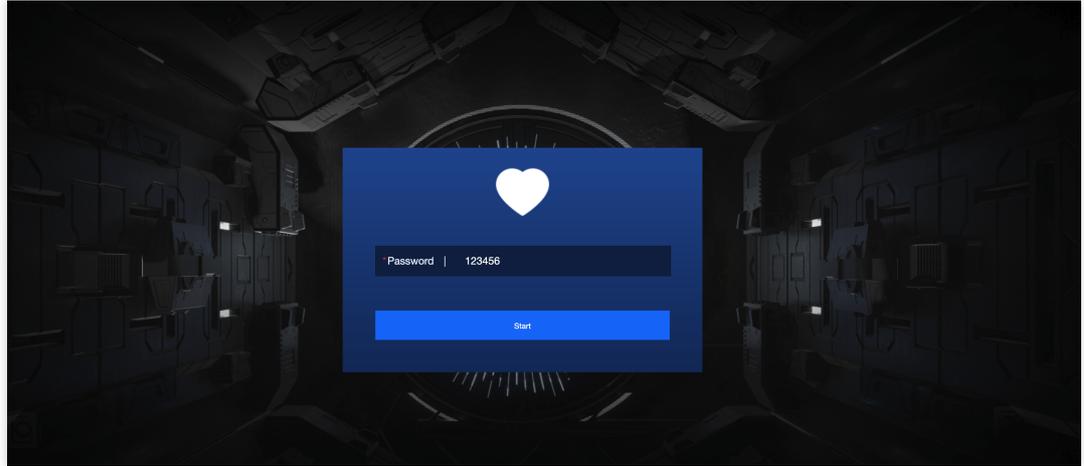


The red box is the information bar



logo

Custom logo image address ++ `http/https` ++.  
 Not provided: Use the default Tencent CAR logo.  
 Image address provided: `png/jpg` formats are supported. It is recommended not to exceed 3 MB. The recommended dimensions are 90px high and 360px wide. Example:  
`https://ex.cloud-gaming.myqcloud.com/cloud_gaming_web/demo/index.html?env=intl&logo=https://qcloudimg.tencent-cloud.cn/raw/5e1434b0dd32f26d9f064853aef02a33.png`



Whether to enable automatic full screen.

true: Enable automatic full screen. Example: `https://.../demo/index.html?para1=xxx&para2=xxx&fullscreen=true`

Not provided: Do not enable automatic full screen.

**Note:**

When it is set to true, the front end will attempt to enable automatic full screen, but due to browser restrictions, automatic full screen is not guaranteed. It usually works on Android, but on PC or iOS, browser restrictions often prevent it from functioning and you still need to click the full screen button manually.

fullscreen



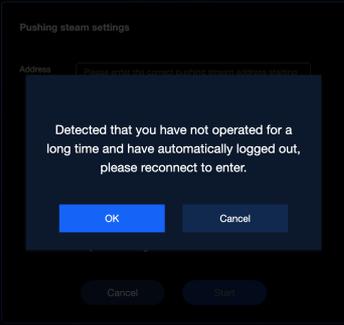
userid

The unique identifier of an end user, which is defined by the business party.

Not provided: A random number is used by default.

**Note:**

If you need to test different user connections, such as testing [the archiving feature](#) to ensure users A and B have different archives, you can simulate the test by providing different user IDs. For example, make A and B use the two links below respectively:

	<p>User A: <code>https://.../demo/index.html?userid=user001</code></p> <p>User B: <code>https://.../demo/index.html?userid=user002</code></p> <p>In Cloud Object Storage (COS), there should be archive files for user001 and user002, and the archiving progress of users A and B should be different. Click <a href="#">here for a detailed introduction to the archiving feature</a>.</p> <p><b>Note:</b></p> <p>The same userid can only use one concurrency at a time.</p> <p>For example:</p> <p>User A is accessing <code>https://.../demo/index.html?userid=user001</code>. If user B accesses the same link, since the userid is also user001, the CAR platform will recognize them as the same user. The CAR platform will automatically transfer the concurrency currently used by user A to user B causing user A to experience a black screen and disconnection.</p> <p>If userid is not provided, a random number will be used by default. However, due to the browser caching mechanism, different tabs in the same browser will use the same userid, so multiple tabs can only occupy one concurrency instance. Additionally, if userid is not provided, the browser cache might be cleared, which can change the userid the next day, causing users' archive files to be lost.</p>
<p>idle</p>	<p>Disconnection duration. If users remain inactive for a long time that exceeds this duration, they will be automatically logged out to prevent resource waste.</p> <p>Not provided: The default value 300s is used.</p> <p>Provided: Positive integer values are supported. Example: <code>https://.../demo/index.html?para1=xxx&amp;para2=xxx&amp;idle=100</code></p> <div style="border: 1px solid black; padding: 10px; background-color: #333; color: white; text-align: center;">  <p>After exceeding the time limit, the concurrent instance will be automatically released</p> </div>
<p>paste</p>	<p>Whether to allow pasting local text to the cloud.</p> <p>true (default): Enable the paste feature.</p> <p>false: Disable the paste feature. Example: <code>https://.../demo/index.html?paste=false</code></p>

# Concurrency Scheduling

Last updated : 2024-01-26 12:02:42

## What is a CAR concurrency pack? How do I determine the max number of concurrent users?

To use CAR services for your application, you need to purchase a concurrency pack. When you configure a pack, you can select the max number of concurrencies (i.e. the max number of concurrent users). Each concurrency supports access by only one user at a time. You can select the number and region of concurrencies based on the average and peak numbers of concurrent users you expect to access your application as well as the users' region.

## When a user directly exits the client or webpage, how long does it take to release a concurrency?

If the user directly closes the page to close the connection to CAR, because `DestroySession` is not called, CAR will wait 90 seconds for the user to reconnect, after which the concurrency will be released.

## How do I know that a user closes the CAR connection?

We recommend you directly maintain a heartbeat between the business backend and the client to detect whether the user is connected.

## How do I immediately release a CAR concurrency?

The backend actively calls the `DestroySession` API.

## What should I do if a message indicating that there are no idle concurrencies is prompted when CAR calls the API for applying for a concurrency?

You can troubleshoot as follows:

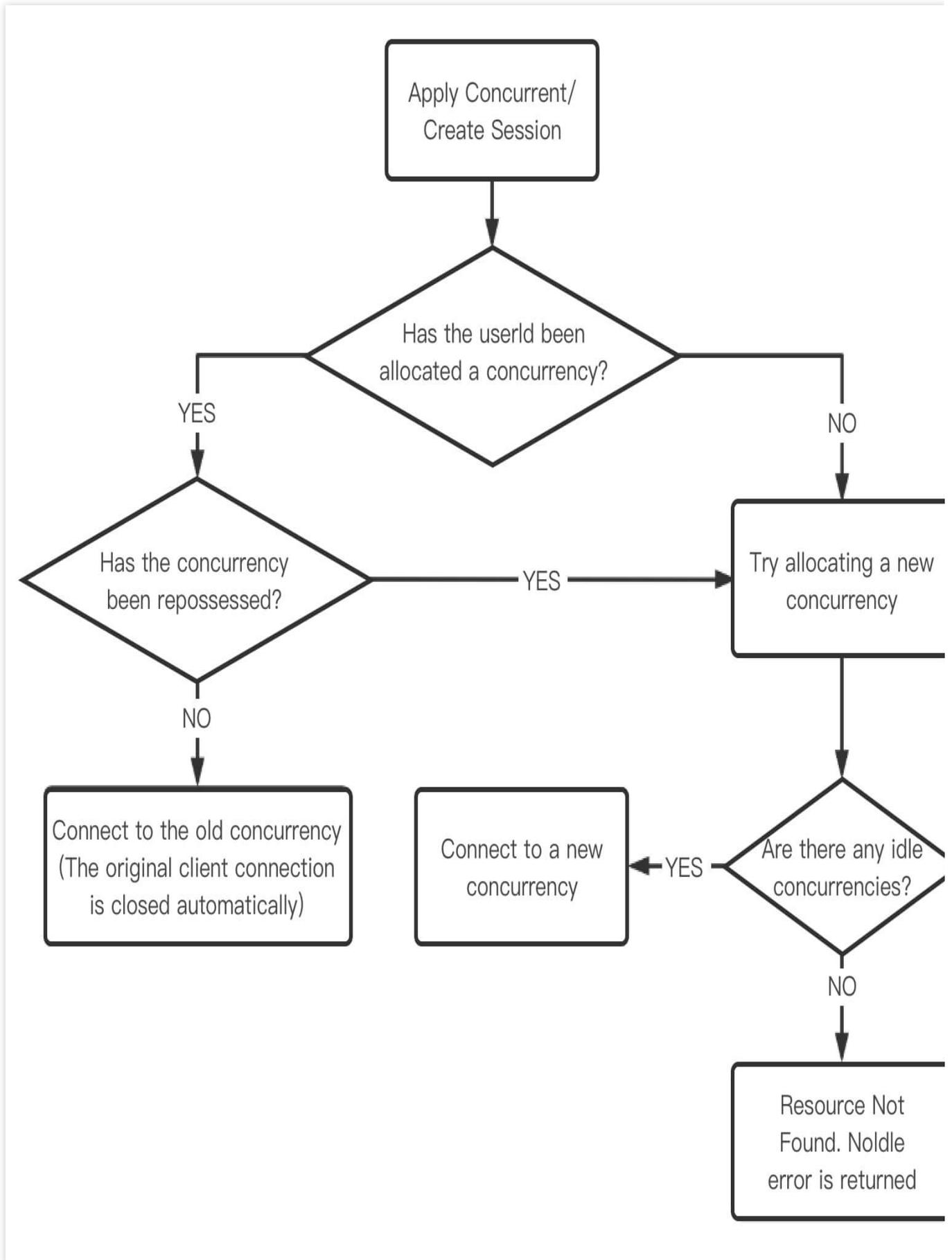
Concurrencies cannot be scheduled if there are no concurrency packs in the console. Check whether you have purchased a CAR concurrency pack.

Check whether the requested project is bound to a concurrency pack in the console. If not, bind it to a concurrency pack with the same concurrency scale.

Check whether there are any idle concurrencies (i.e., concurrencies that are not currently being occupied by a user) under the requested project in the console. After the last user exits the application, it will take some time for the concurrency to be cleared and released. A user can access the application only after a concurrency becomes idle.

## Can I call `ApplyConcurrent` and `CreateSession` repeatedly? Will a new concurrency or the original one be connected to in a repeated call?

`ApplyConcurrent` and `CreateSession` can be called repeatedly. If the original concurrency hasn't been repossessed, it will be connected to, and the original client connection will close. If the original concurrency has already been repossessed, a new concurrency will be connected to.



## Will the connection close if the user performs no operations for a long time?

CAR doesn't actively close the user connection, so you need to actively close the connection based on the SDK callback. To set the duration after which the concurrency will become considered idle (i.e., the duration a user is idle and performs no operations), you can customize the `idleThreshold` parameter in the [init](#) API. After you receive the callback, you can call [DestroySession](#) to release the concurrency.

# SDK

Last updated : 2024-01-26 12:02:42

## SDK for JavaScript

### Why does the console report the "setServerDescription" error in the browser?

Generally, this error occurs because the structure hierarchy of the request used by `CreateSession` to get `ServerSession` is incorrect. You can print the returned result to understand how to get `ServerSession`.

### Why is a failure (other than 0) returned when I enable the data channel?

You need to create a data channel after receiving `onConnectSuccess` called back by the SDK.

### How do I implement automatic landscape/portrait mode switching on the mobile client?

As the cloud stream is fixed in landscape mode, the image needs to be rotated to be displayed in portrait mode on the mobile client. You can pass in the `autoRotateContainer` (container rotation) and `autoRotateMountPoint` (mount point rotation) parameters to `init`.

### Why can't automatic playback work in Weixin?

Due to restrictions of WebView on Weixin for iOS, a media file can be played back only after the user clicks it. You can initialize the CAR SDK after the `WeixinJSBridgeReady` callback is returned. We recommend you add an interactive UI to ask the end user to click the media file.

### Which cursor modes are available?

Currently, there are three modes:

`0` : No cursor is delivered.

`1` : The delivered cursor is rendered by the SDK.

`2` : The cursor is rendered in the cloud, which has a longer latency than mode `1`.

We recommend you use mode `0` or `1`. The default mode is `0`. For the specific implementation process, see [JavaScript SDK](#).

## SDK Plugin

### Why is the click direction of the stick button incorrect?

If this happens, we recommend creating a stick after `connectSuccess` and try again.

# Video Stream

Last updated : 2024-12-06 17:57:44

## What encoding formats are used?

CAR uses H.264 encoding by default. In terminals supporting H.265, both H.265 and H.264 encoding will be used in an adaptive manner.

## Why does the application window on end-users' devices appear incomplete?

You can troubleshoot as follows:

Check whether only one application is started and whether the window size exceeds the cloud server desktop size.

Check whether a process with the same class name and window name as those of the specified application existed during startup. The temporary process might be captured.

# Cloud Application

Last updated : 2023-02-02 16:28:38

## UE Application Operations in the Cloud

### Why is the cloud window resolution different from the expected resolution?

This may be because the support for a high DPI isn't added during UE4 application packaging.

### Why doesn't the cloud application respond after the user clicks a screen interaction button?

If the UE application hides the cursor by default, the cursor will actually be locked at the center of the Windows image. In this case, CAR cannot convert a click event on the mobile device to a cloud click event with the corresponding coordinates. You need to make sure that the mouse position is changeable at any time, so that users can directly click in the cloud environment.

### Why does a warning of an early graphics card driver version pop up when the user starts a UE5 application?

Currently, the cloud environment driver is NVIDIA GeForce Game Ready Driver 511, so a warning of an early graphics card driver version will pop up. In most cases, the application can still run normally after you click **Confirm**. If your application can run normally and you want to disable the warning, we recommend you modify the configuration parameter in the `ConsoleVariable.ini` file in the application package. For more information, see [NVIDIA Driver Warning](#).

The cloud environment driver will be updated as soon as possible to solve this problem. If your application cannot run normally due to an early driver version, or if you have other questions, please contact us for assistance.

## Unity Application Operations in the Cloud

### The user presses and holds the left mouse button and drags the mouse to rotate the image angle on the local device, but why doesn't this operation take effect in the cloud?

This is generally because the cloud application doesn't hide the cursor when the user presses and holds the mouse to drag it.

## Input Peripheral Device

### Which peripheral device messages can be obtained by a cloud application?

Currently, a cloud application can get mouse, keyboard, and controller messages, and the business frontend can send mouse, keyboard, and controller messages to the cloud through a touchscreen or other input. For the specific implementation process, see the API documentation of the SDK for each client type:

[JavaScript SDK](#)

[SDK for Android](#)

[SDK for iOS](#)

## Process

### **Why does CAR start multiple processes?**

Check whether processes in the process list are complete, and if yes, check whether the application starts multiple processes on its own.