

Fusion Simple FPS - Hathora Integration Documentation

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The Simple FPS project demonstrates how to create a fully functional multiplayer game using [Photon Fusion 2](#) and [Hathora](#) server orchestration.

Before continuing, review these requirements:

- You must create a Photon account and a Photon Fusion 2 Application Id.
- You must create a Hathora account.
- You must use Unity Editor 2022.3.

Project setup

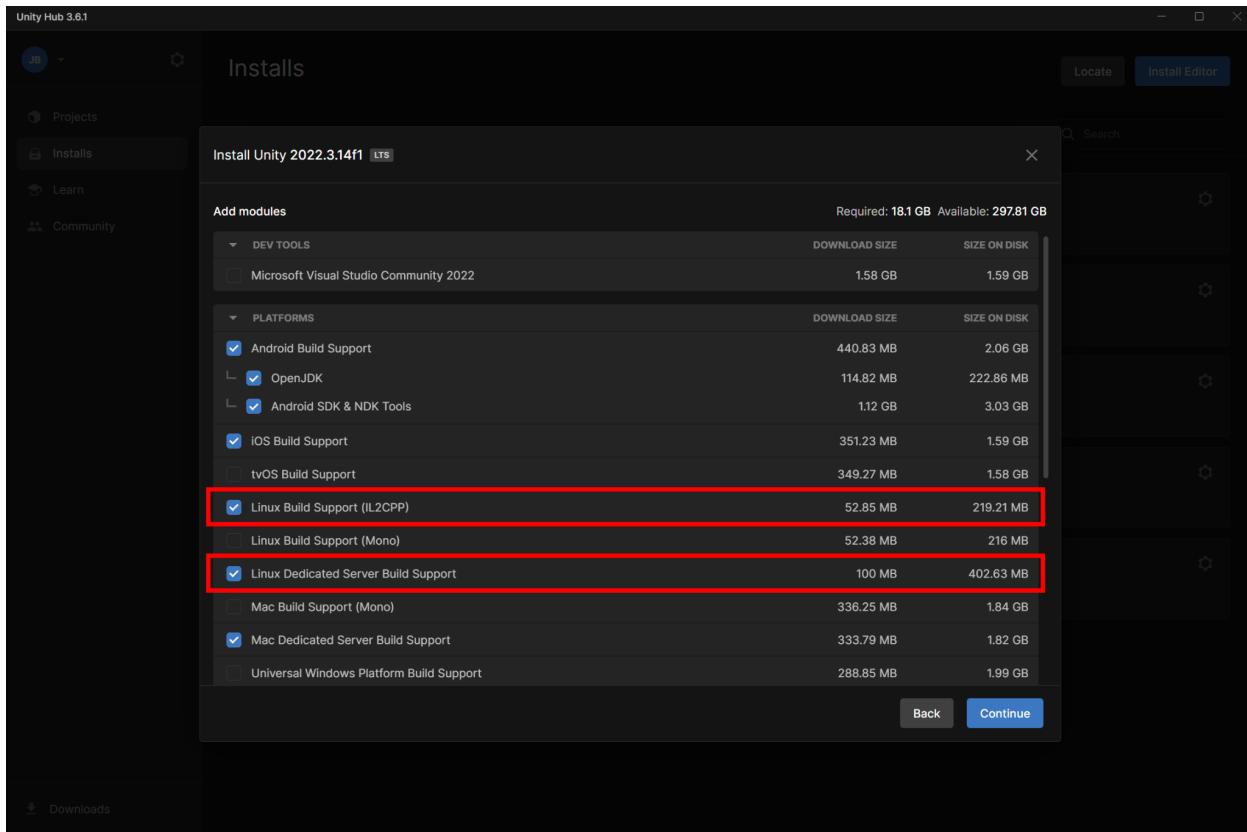
Installing the Unity Editor

To work with the Fusion Simple FPS project, you must use [Unity Editor 2022.3 LTS](#). See [Installing Unity](#) to learn how to install the Unity Editor for your operating system.

Required components:

- Linux Build Support (IL2CPP)
- Linux Dedicated Server Build Support

Note: When installing the Unity Editor, select both components from the components list. Otherwise, you won't be able to build the standalone Linux binary.



Get started with Photon Fusion 2

If you don't already have one, you'll need to [create a Photon account](#) to start using Photon Fusion. After you have an account, log into the [Photon Dashboard](#) and create a new **Fusion 2** application.

Note: See the [Photon Fusion Introduction](#) if you have trouble getting started.

1. From the Photon Dashboard, select **Create a new app**.

Your Photon Cloud Apps + CREATE A NEW APP

Show All Apps in Status Active Sort by Peak CCU Order Descending Display As List

2. Set Photon SDK to Fusion.

Create New Application

The application defaults to the **Free Plan** for development only.
You can change the plan at any time.

Select Application Type *

Multiplayer Game
You are a gaming company creating a multiplayer game targeting any device. Your customers are end-consumers.

Non-Gaming App
Other applications like education, training, medical, simulation, collaboration, meeting, events, defense, sports, metaverse, social VR/XR, arcades and any application which targets businesses and institutions.

1 Select Photon SDK *
Fusion

2 Select SDK Version *
Fusion 2 (Preview)

3 Application Name *
Fusion Simple FPS

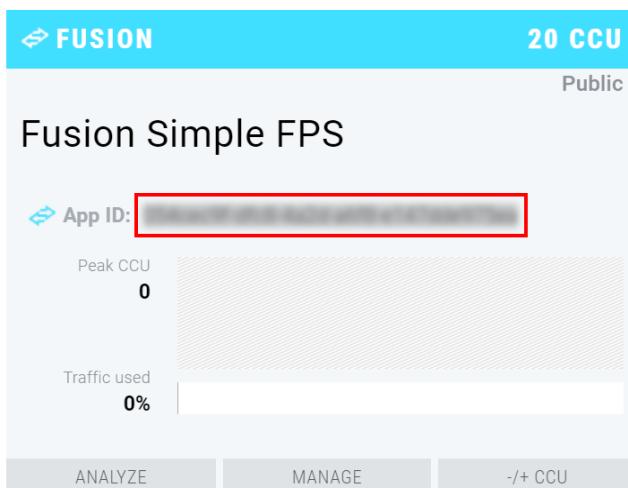
Description
Short description, 1024 chars max.

Url
http://enter.your-url.here/ e.g. marketing material, landing page, promo site, etc.

4 CREATE

3. Set **SDK Version** to **Fusion 2**.

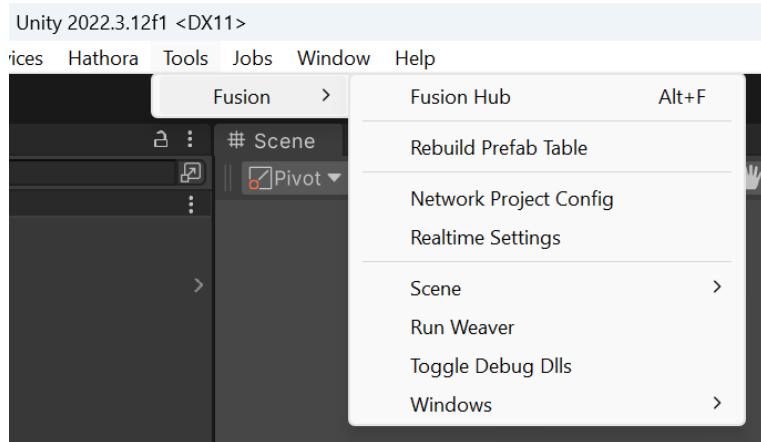
4. Name the application.
5. Optionally, provide a brief description and URL.
6. Select **Create**.
7. After creating the application, select **App ID** in the Photon Dashboard and copy it.



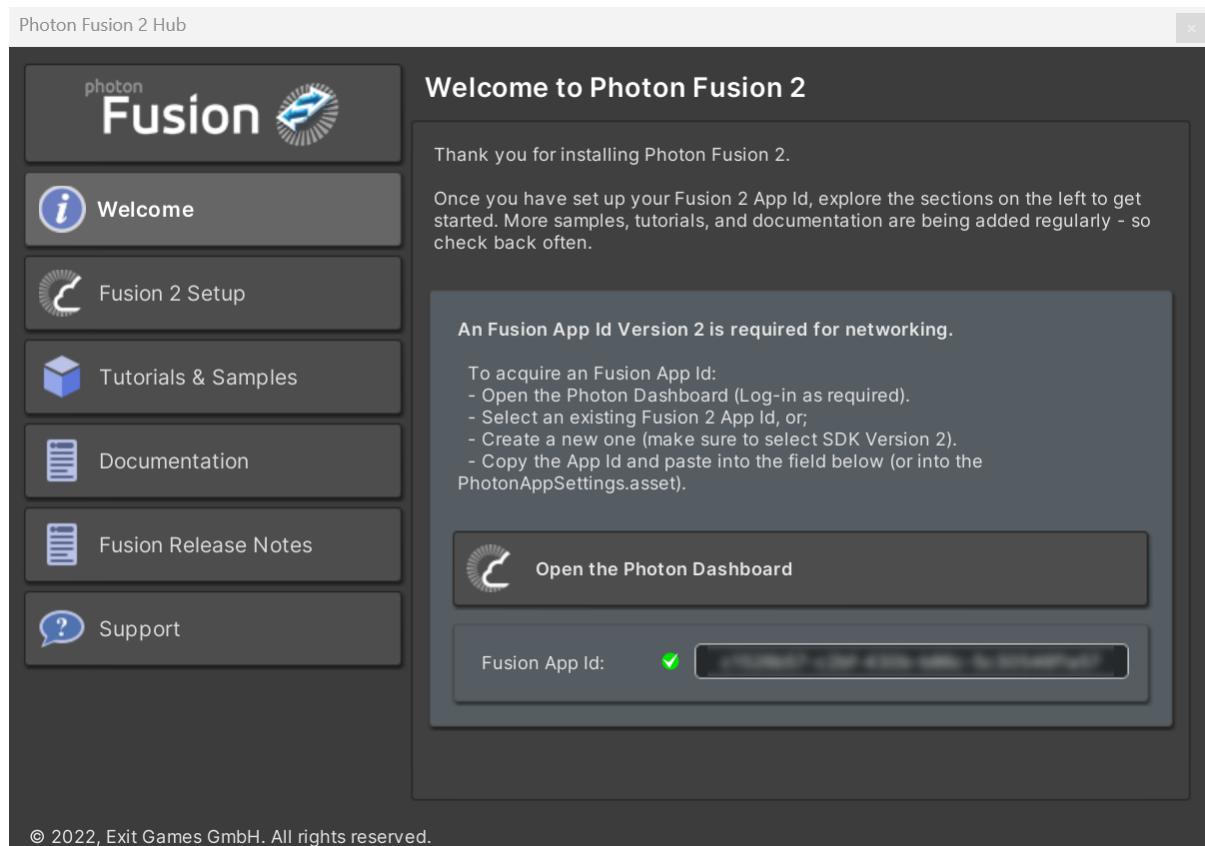
Linking the Photon Fusion 2 project

Download the Fusion Simple FPS, then launch it in the Unity Editor.

1. Select **Tools > Fusion > Fusion Hub**.



2. Paste the App ID you copied into the **Fusion App Id** field and confirm by **Enter**.



Get started with Hathora Cloud

Simple FPS dedicated servers can be deployed globally on Hathora Cloud. With Hathora Cloud, you get some key benefits:

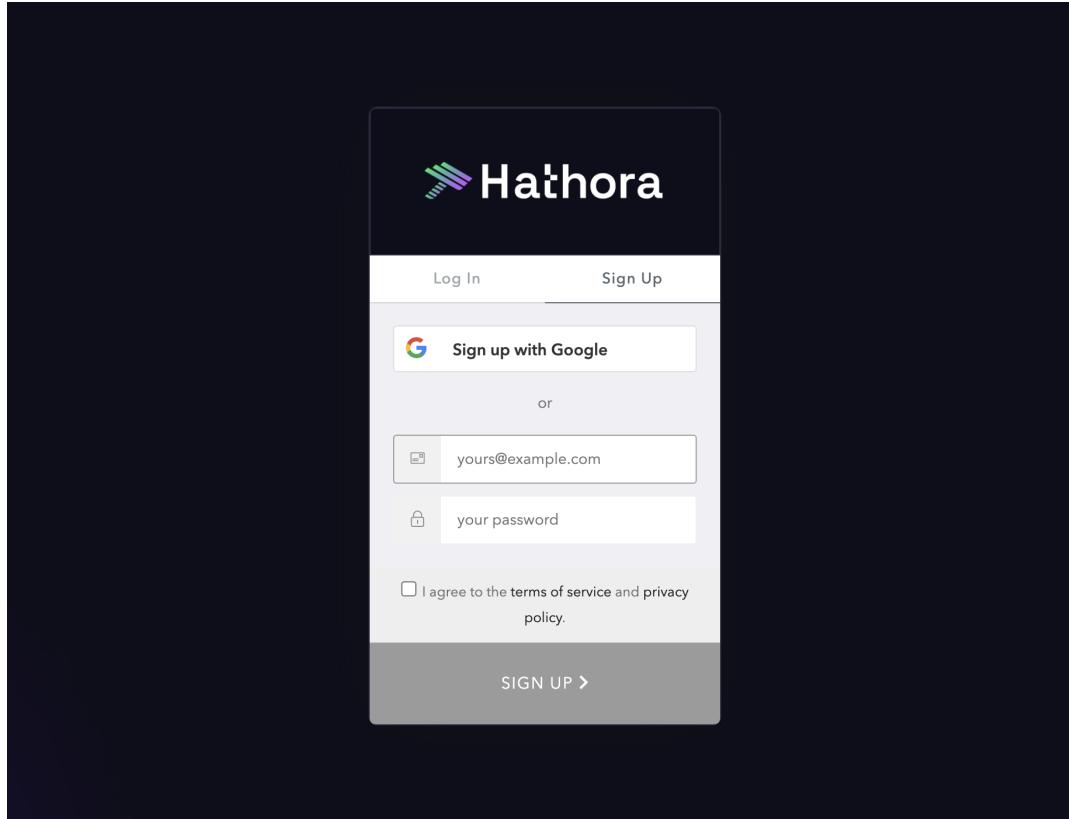
- Automated scalability and server orchestration
- Immediate access to 11 global regions (map nicely with Photon Cloud regions)
- Simple integration process
- Configure, build, and deploy directly from Hathora's Unity editor plugin

Relevant files for Hathora integration can be found:

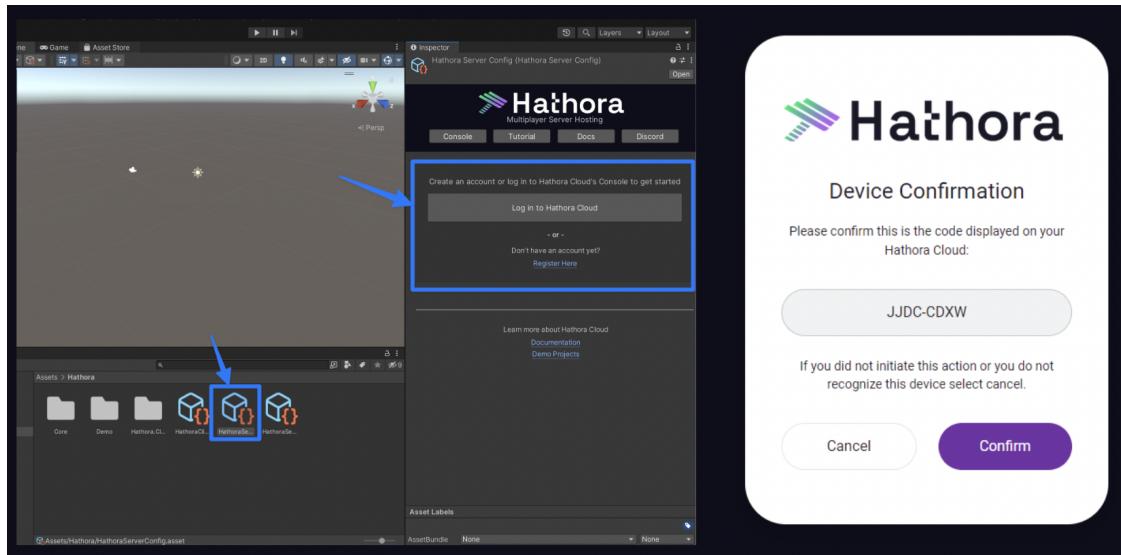
- **Assets/Hathora**
 - This is the installed [Hathora Unity plugin](#).
- **Assets/Photon/FusionAddons/Hathora**
 - Contains Hathora ⇔ Fusion game independent integration.
- **Assets/Scripts/Hathora**
 - Contains integration files specific to Simple FPS.

To enable integration:

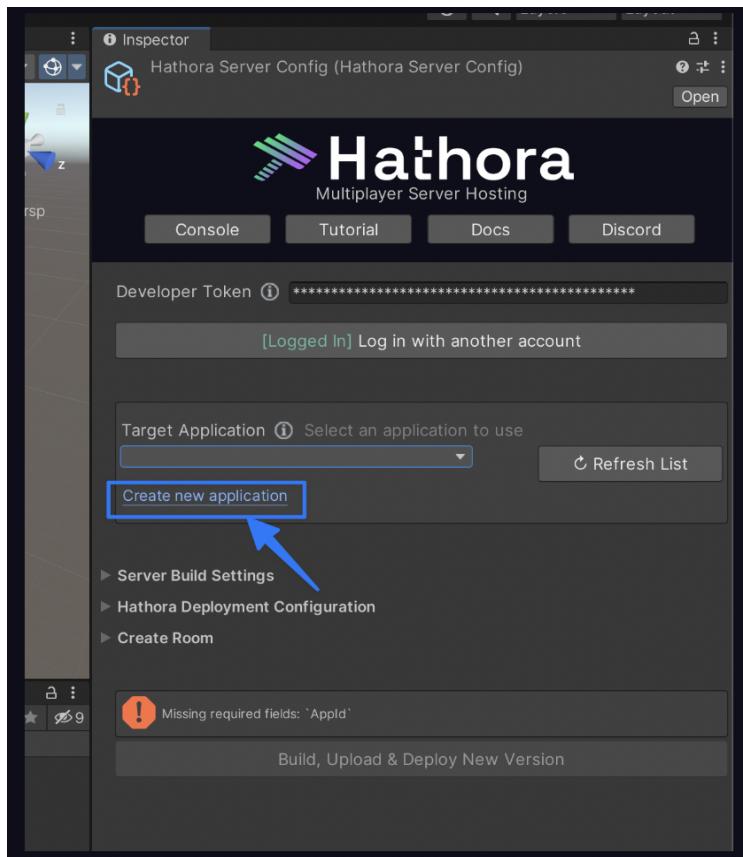
1. Create a Hathora Cloud account at <https://console.hathora.dev>

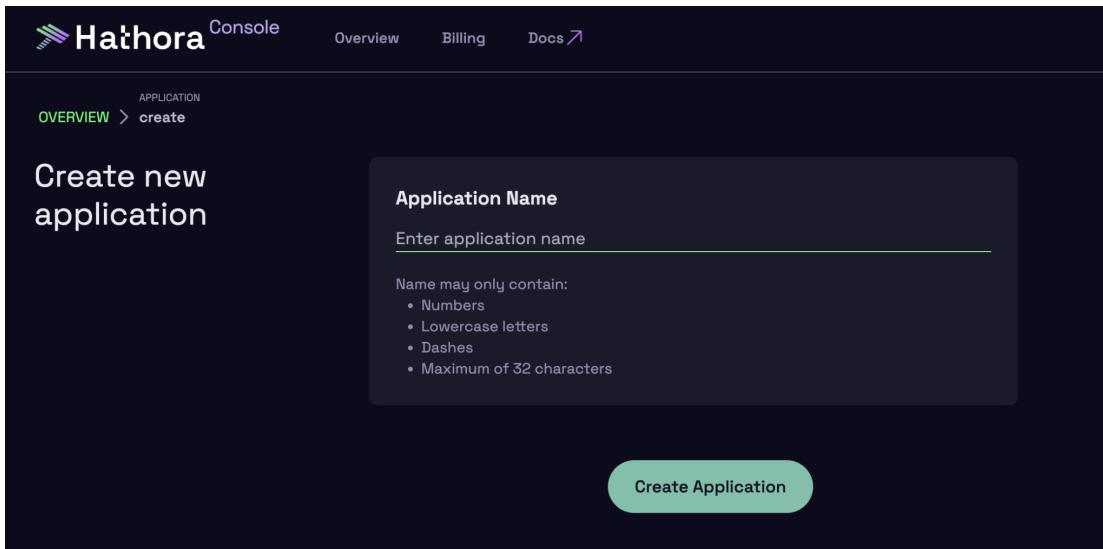


2. Select the **HathoraServerConfig** asset included in the project (**Assets/Photon/FusionAddons/Hathora/Configs**).
3. Log in with your Hathora Cloud account - this will open a web browser window to complete login.



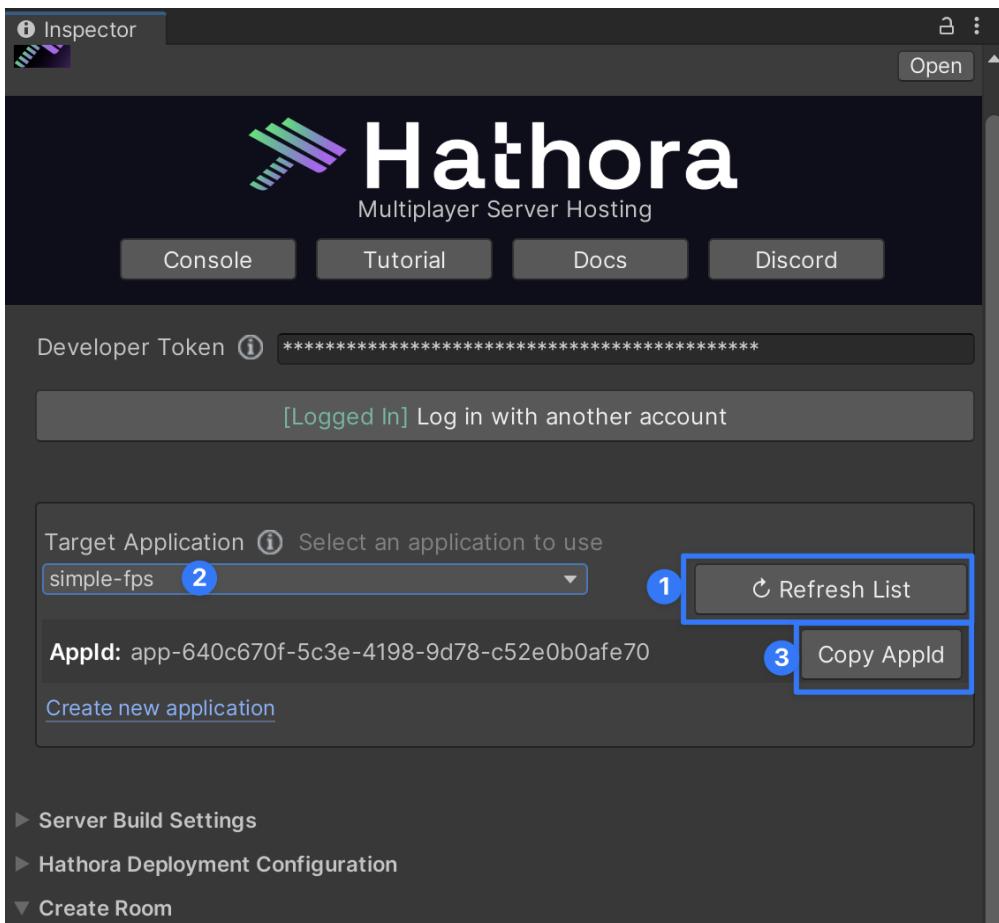
4. Create a new application.



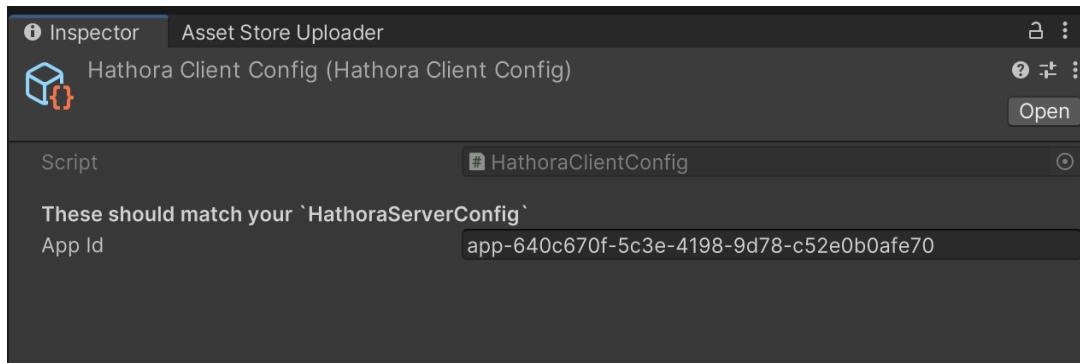


5. Now in the Unity plugin, you can:

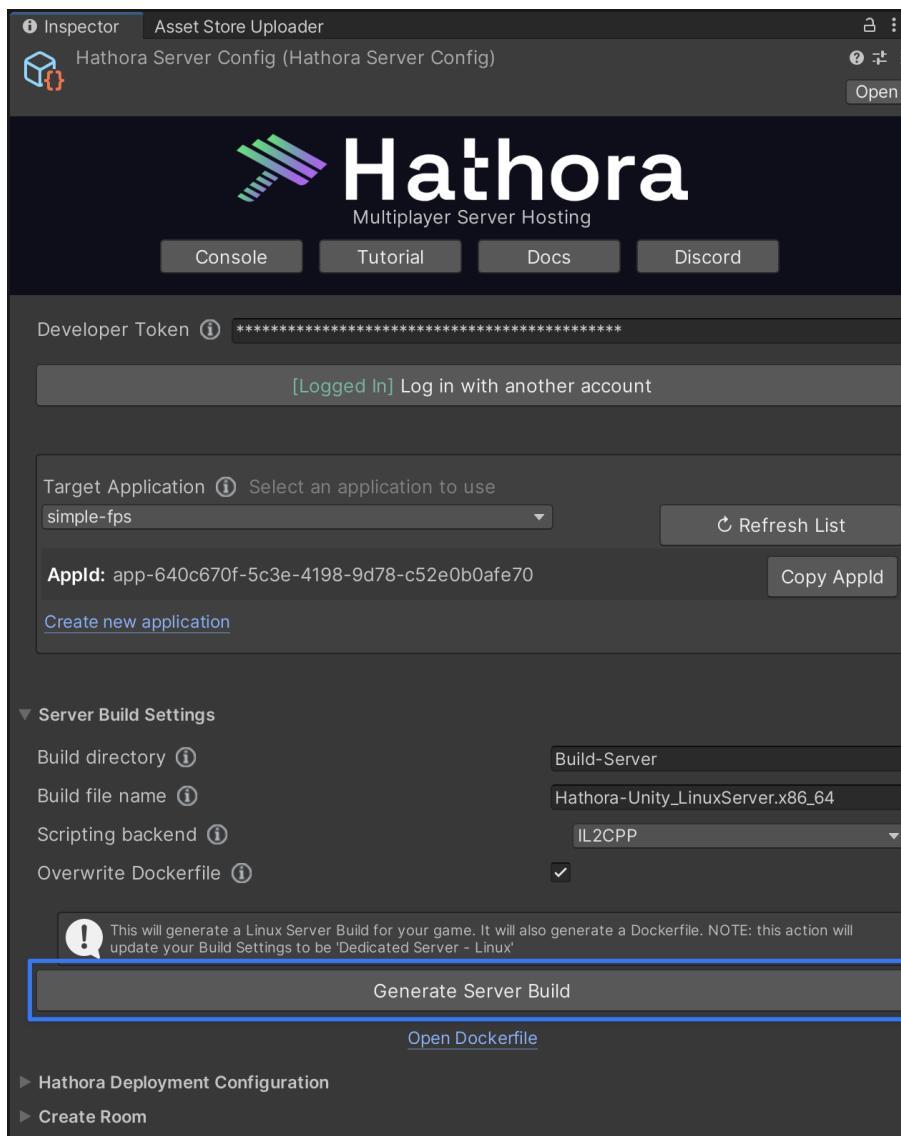
- Refresh your application list (1)
- Select your new application (2)
- Copy the App Id (3)



6. Select the **HathoraClientConfig** asset included in the project (**Assets/Photon/FusionAddons/Hathora/Configs**) and update the App Id.

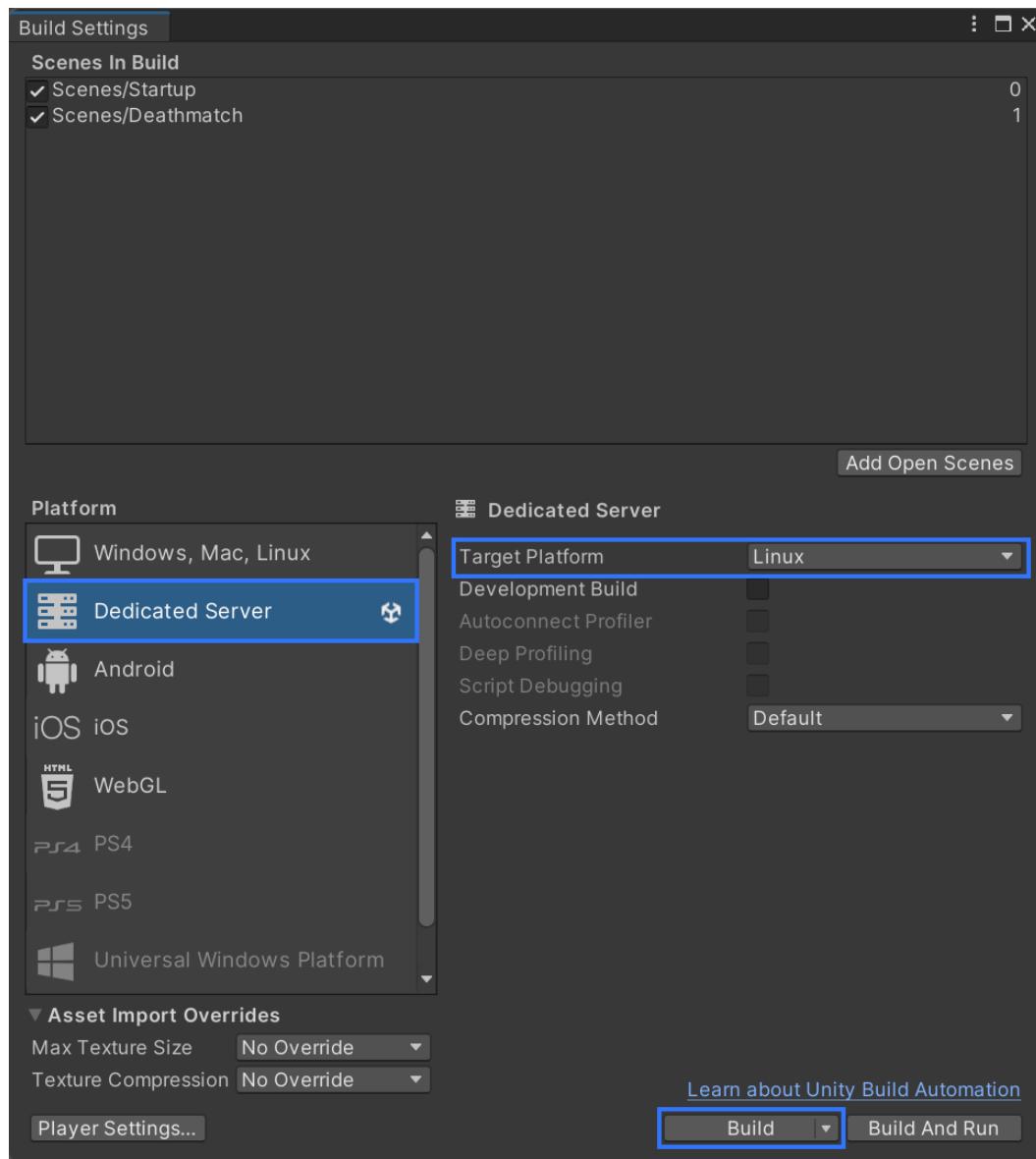


7. Select **HathoraServerConfig** and **Generate Server Build**.

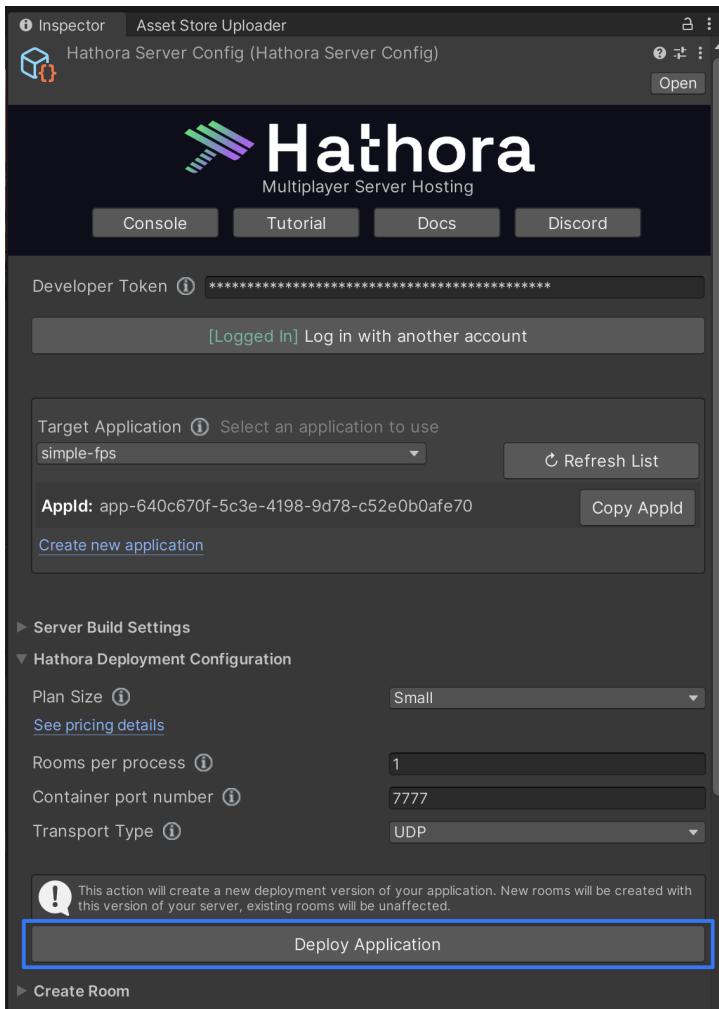


Note: Sometimes the build fails due to platform switching or loading Linux platform toolchain packages in the background. To resolve it, try restarting the Unity editor, switch to the **Dedicated Server - Linux** platform and start the build manually.

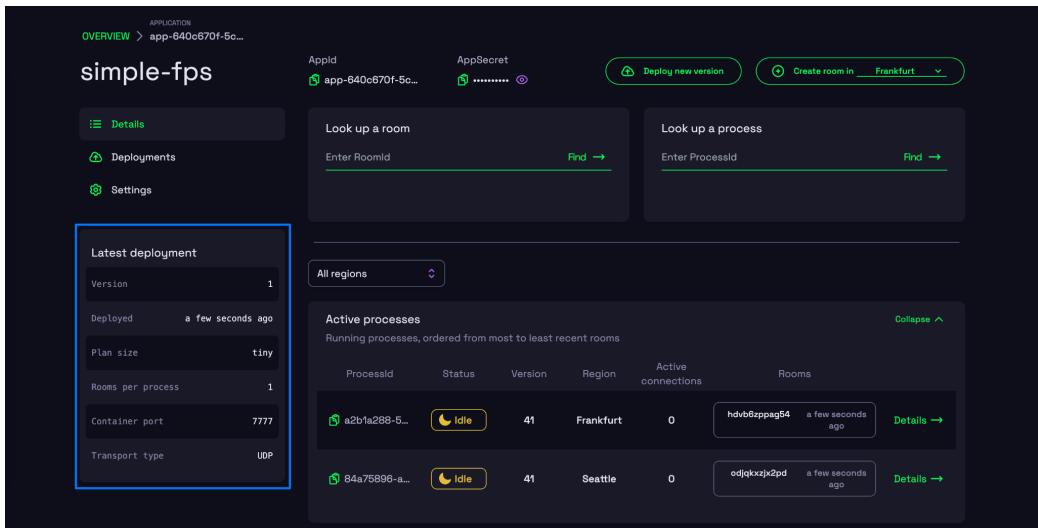
Make sure the output path matches *Build directory* and *Build file name*, in this case `[PROJECT_ROOT]/Build-Server/Hathora-Unity_LinuxServer.x86_64`



8. Deploy server build to Hathora Cloud.



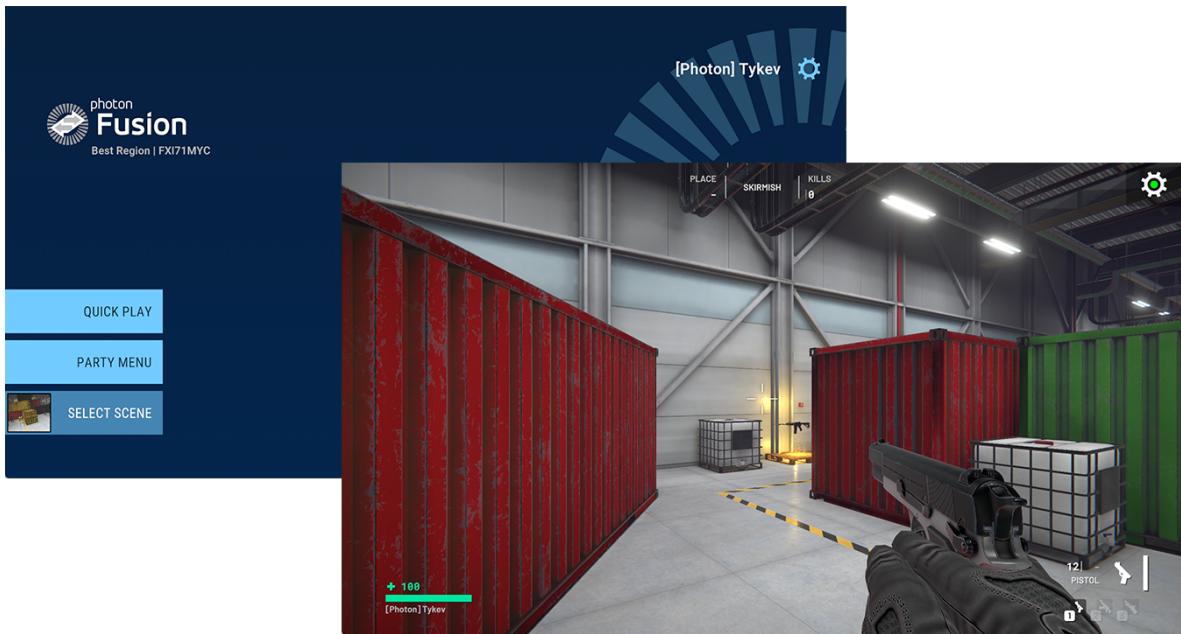
9. Now you should see the *Latest deployment* being updated in Hathora Cloud



Building & starting the game client

Creating a client build is no different from creating any other regular build.

1. Select your target platform and make a build.
2. When the build is done, run two instances of the build.
3. Press **Quick Play** on one client and wait until the game is loaded. It can take a while if you are running for the first time.



4. Press **Quick Play** on the second client and it should connect you into the same room.
5. Check Hathora Cloud, you'll be able to see server instance details.

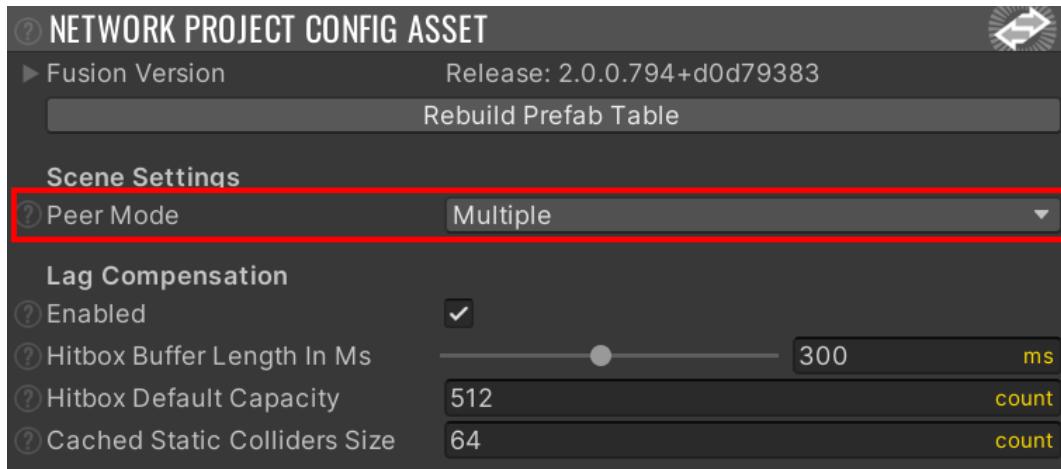
ProcessId	Status	Version	Region	Active connections	Rooms
366f3ff1-e0...	Active	30	Frankfurt	2	3863bingq434g a minute ago Details →

6. Congratulations, you've just finished basic integration and are ready to iterate your own game!

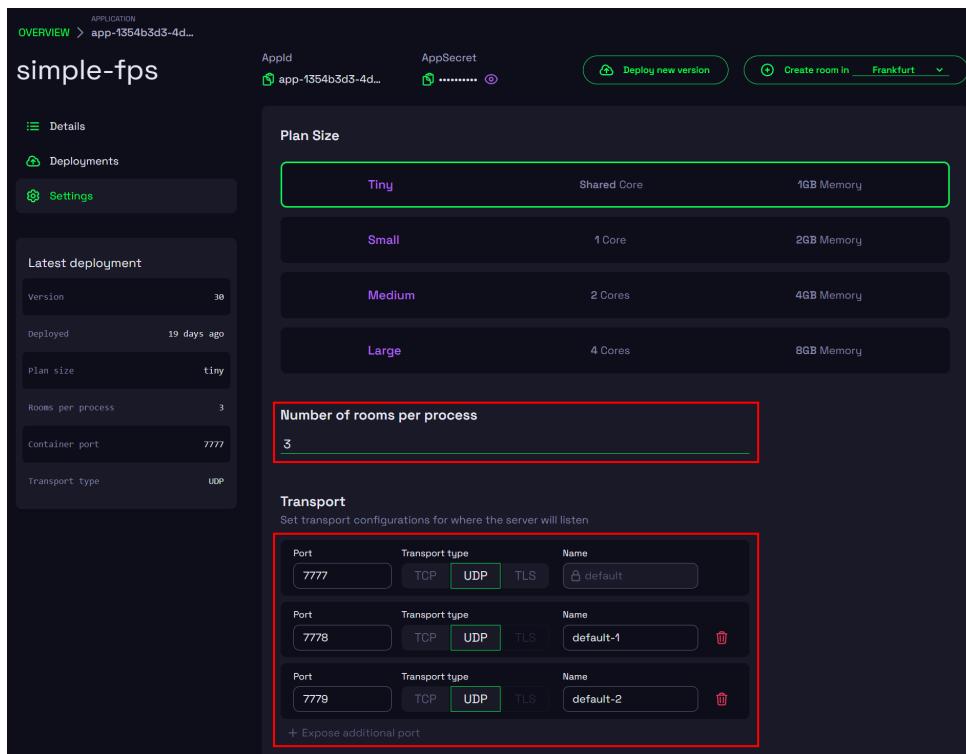
A1: Multi-peer mode

Fusion supports running multiple server instances within a single process, called [multi-peer mode](#). This feature allows for efficient CPU utilization and reduces overall cost.

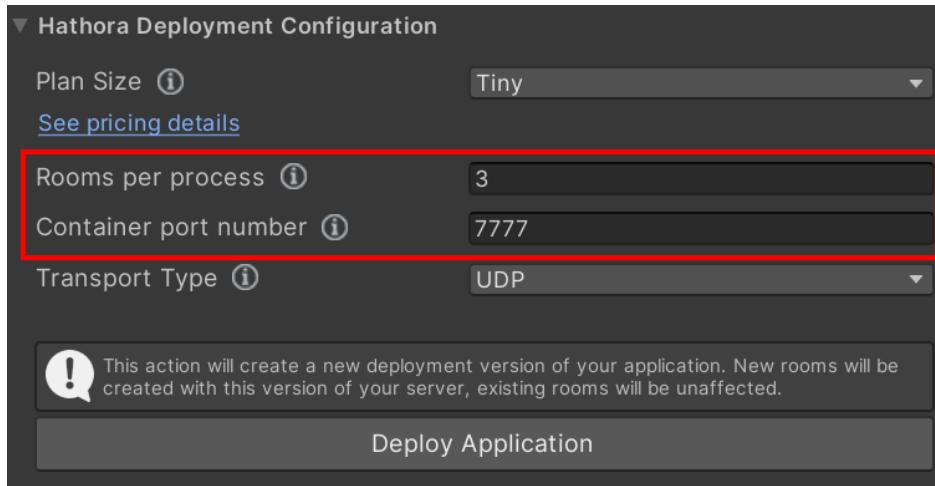
1. Make sure the **Peer Mode** is set to **Multiple** in **NetworkProjectConfig** asset ([Assets/Photon/Fusion/Resources](#)).



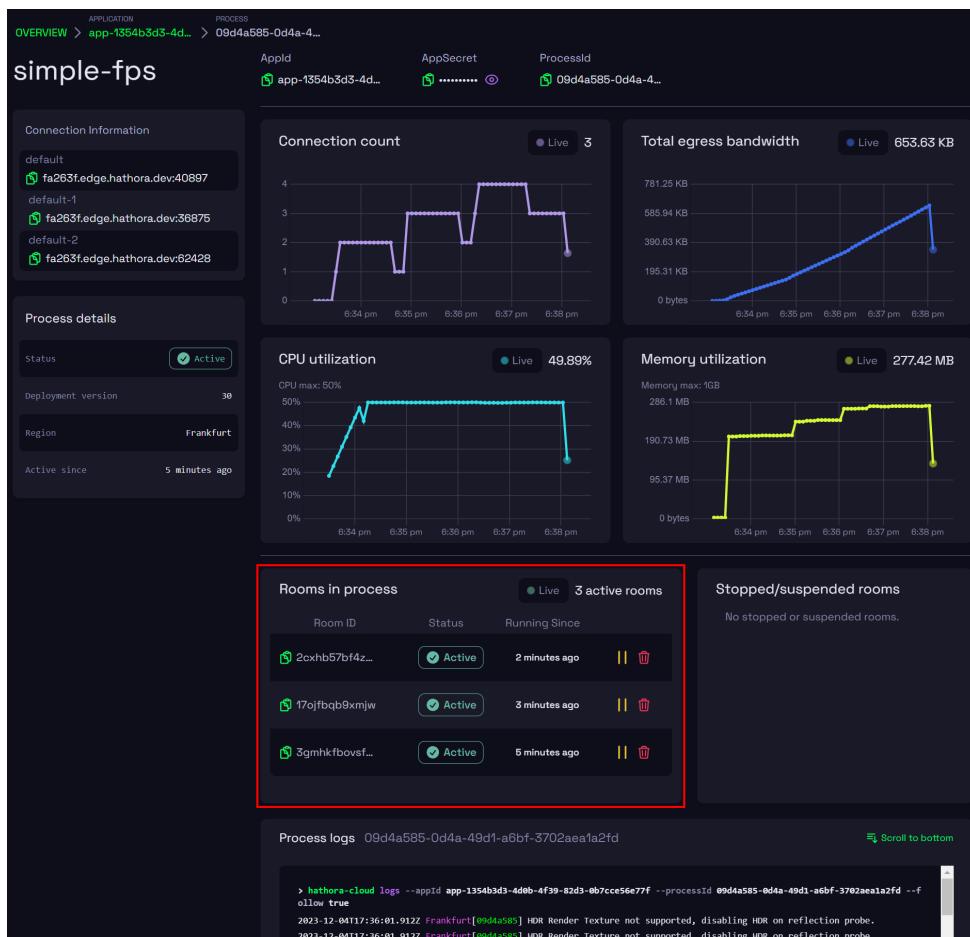
2. Configure your application **Settings** in Hathora Cloud:
 - a. Set the **Number of rooms per process** to **3**.
 - b. Add transport configurations and set **Port** and **Name** properties. Make sure it is configured exactly the same as in the following image.



3. Select **HathoraServerConfig** in the Unity editor.
4. Generate a new Linux dedicated server build (check sections above for more details).
5. Configure the config as in the following image and deploy.



6. After joining with enough clients, you'll be able to see on Hathora Cloud multiple rooms / games running within a single process.



A2: References

This guide covers basic configuration and operation of Simple FPS on Hathora. We recommend to explore following topics which are related:

- [Simple FPS documentation](#) - provides general information about Fusion Simple FPS project and its architecture overview.
- [Simple KCC documentation](#) - provides more information about Fusion Simple Kinematic Character Controller addon used in Simple FPS and its configuration.
- [Hathora documentation](#) - provides more information about Hathora Cloud configuration and additional topics not covered by this guide:
 - Containerization with Docker files.
 - Integration logic walk-through.
 - Troubleshooting tips.