

WCS in Amazon EC2

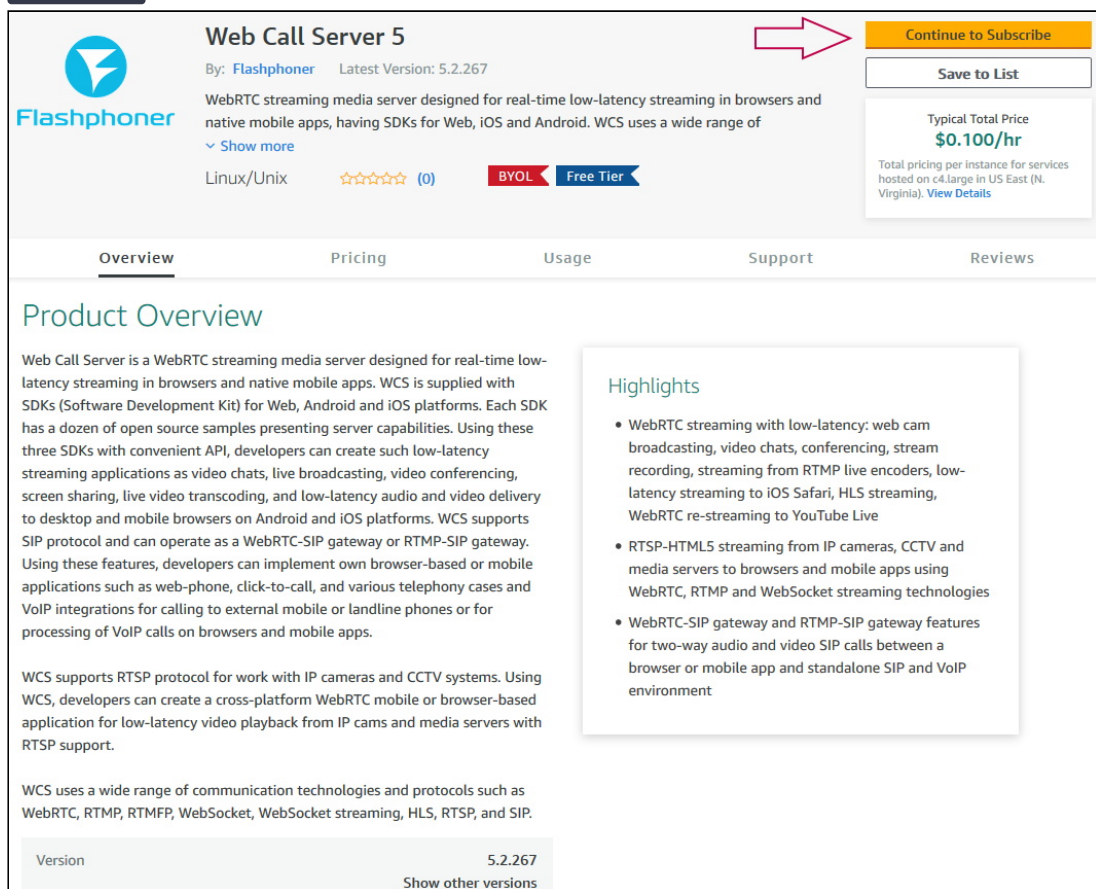
WCS server can be deployed in Amazon Elastic Compute Cloud (EC2) by one of the following ways:

Setting up Linux virtual machine and installing WCS from the scratch

This way is useful if you need fine OS tuning, additional modules installation and so on. Launch a Linux virtual machine by [this AWS manual](#), set it up on your need, then install WCS by [quick](#) or [detailed](#) installation manual.

WCS automatic deployment from Amazon AWS Marketplace

1. Open [Web Call Server](#) page on Amazon AWS Marketplace and click [Continue to Subscribe](#):



Web Call Server 5
By: [Flashphoner](#) Latest Version: 5.2.267

WebRTC streaming media server designed for real-time low-latency streaming in browsers and native mobile apps, having SDKs for Web, iOS and Android. WCS uses a wide range of

[Show more](#)

Linux/Unix ★★★★★ (0) BVOL Free Tier

[Continue to Subscribe](#)

[Save to List](#)

Typical Total Price
\$0.100/hr
Total pricing per instance for services hosted on c4.large in US East (N. Virginia). [View Details](#)

[Overview](#) [Pricing](#) [Usage](#) [Support](#) [Reviews](#)

Product Overview

Web Call Server is a WebRTC streaming media server designed for real-time low-latency streaming in browsers and native mobile apps. WCS is supplied with SDKs (Software Development Kit) for Web, Android and iOS platforms. Each SDK has a dozen of open source samples presenting server capabilities. Using these three SDKs with convenient API, developers can create such low-latency streaming applications as video chats, live broadcasting, video conferencing, screen sharing, live video transcoding, and low-latency audio and video delivery to desktop and mobile browsers on Android and iOS platforms. WCS supports SIP protocol and can operate as a WebRTC-SIP gateway or RTMP-SIP gateway. Using these features, developers can implement own browser-based or mobile applications such as web-phone, click-to-call, and various telephony cases and VoIP integrations for calling to external mobile or landline phones or for processing of VoIP calls on browsers and mobile apps.

WCS supports RTSP protocol for work with IP cameras and CCTV systems. Using WCS, developers can create a cross-platform WebRTC mobile or browser-based application for low-latency video playback from IP cams and media servers with RTSP support.


WCS uses a wide range of communication technologies and protocols such as WebRTC, RTMP, RTMFP, WebSocket, WebSocket streaming, HLS, RTSP, and SIP.

Highlights

- WebRTC streaming with low-latency: web cam broadcasting, video chats, conferencing, stream recording, streaming from RTMP live encoders, low-latency streaming to iOS Safari, HLS streaming, WebRTC re-streaming to YouTube Live
- RTSP-HTML5 streaming from IP cameras, CCTV and media servers to browsers and mobile apps using WebRTC, RTMP and WebSocket streaming technologies
- WebRTC-SIP gateway and RTMP-SIP gateway features for two-way audio and video SIP calls between a browser or mobile app and standalone SIP and VoIP environment

Version 5.2.267 [Show other versions](#)

2. Product description page with hourly pricing depending on selected instance will be shown. Click **Continue to Configuration**:



Web Call Server 5

[< Product Detail](#) [Subscribe](#)

Subscribe to this software

You're subscribed to this software. Please see the terms and pricing details below or click the button above to configure your software.

Terms and Conditions

Flashphoner Offer

You have subscribed to this software and agree that your use of this software is subject to the pricing terms and the seller's End User License Agreement (EULA). Your use of AWS services is subject to the [AWS Customer Agreement](#).


Product	Effective date	Expiration date	Action
Web Call Server 5	6/23/2016	N/A	Hide Details

The following table shows pricing information for the listed software components. You're charged separately for your use of each component.


Web Call Server 5 **BYOL**

Additional taxes or fees may apply.

Web Call Server 5	
EC2 Instance Type	Software/hr
t2.micro	\$0
t2.small	\$0
t2.medium	\$0



3. Server configuration page will be shown. Select region and click **Continue to Launch**:



Web Call Server 5

[< Product Detail](#) [Subscribe](#) [Configure](#)

Configure this software

Choose a fulfillment option below to select how you wish to deploy the software, then enter the information required to configure the deployment.

Fulfillment Option

64-bit (x86) Amazon Machine Image (AMI)

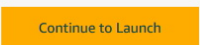
Software Version

5.2.267 (Aug 02, 2019)

Region

US East (N. Virginia)

Ami Id: ami-0bcc3eccd8134e445



Pricing information

This is an estimate of typical software and infrastructure costs based on your configuration. Your actual charges for each statement period may differ from this estimate.

Software Pricing

Web Call Server 5	\$0/hr
BYOL	
running on c4.large	

Infrastructure Pricing

EC2:	1 * c4.large
Monthly Estimate:	\$72.00/month

4. Instance launch page will be shown. Select the instance type:

Flashphoner Web Call Server 5

[< Product Detail](#) [Subscribe](#) [Configure](#) [Launch](#)

Launch this software

Review your configuration and choose how you wish to launch the software.

Configuration Details

Fulfillment Option	64-bit (x86) Amazon Machine Image (AMI) Web Call Server 5 <i>running on c4.large</i>
Software Version	5.2.267
Region	US East (N. Virginia)

[Usage Instructions](#)

Choose Action

Launch from Website Choose this action to launch from this website

EC2 Instance Type

c4.large

Memory: 3.75 GiB
CPU: 8 EC2 Compute Units (2 virtual cores with 4.0 Compute Units each)
Storage: EBS storage only
Network Performance: Moderate

5. Then scroll page down to **Security Group Settings** and click **Create New Based On Seller Settings**:

Security Group Settings

A security group acts as a firewall that controls the traffic allowed to reach one or more instances. You can create a new security group based on seller-recommended settings or choose one of your existing groups. [Learn more](#)

default

[Create New Based On Seller Settings](#)










6. **Security Group creation** page will be shown. Set the group name, description and click **Save**:

Create new based on seller settings

A new security group will be generated by AWS Marketplace. It is based on recommended settings for Web Call Server 5 version 5.2.267.

Name your security Group

Description

Connection Method	Protocol	Port Range	Source (IP or Group)	
SSH	tcp	22	Anywhere 	<input type="text" value="0.0.0.0/0"/>
	tcp	554	Anywhere 	<input type="text" value="0.0.0.0/0"/>
	udp	30000-33000	Anywhere 	<input type="text" value="0.0.0.0/0"/>
	tcp	8080-8084	Anywhere 	<input type="text" value="0.0.0.0/0"/>
	tcp	8443-8445	Anywhere 	<input type="text" value="0.0.0.0/0"/>
	tcp	8888	Anywhere 	<input type="text" value="0.0.0.0/0"/>
	tcp	9091	Anywhere 	<input type="text" value="0.0.0.0/0"/>
	tcp	1935	Anywhere 	<input type="text" value="0.0.0.0/0"/>
	udp	1935	Anywhere 	<input type="text" value="0.0.0.0/0"/>

Rules with source of 0.0.0.0/0 allows all IP addresses to access your instance. We recommend limiting access to only known IP addresses.


7. Select the new group in the drop-down list:

Security Group Settings

A security group acts as a firewall that controls the traffic allowed to reach one or more instances. You can create a new security group based on seller-recommended settings or choose one of your existing groups. [Learn more](#)


8. Click **Launch**:



Web Call Server 5

Security Group Settings


A security group acts as a firewall that controls the traffic allowed to reach one or more instances. You can create a new security group based on seller-recommended settings or choose one of your existing groups. [Learn more](#)




Create New Based On Seller Settings

Key Pair Settings

To ensure that no other person has access to your software, the software installs on an EC2 instance with an EC2 key pair that you created.



Create a key pair in EC2 [↗](#)
(Ensure you are in the region you wish to launch your software)



Launch

9. A message will be displayed about instance deployment. It takes about a minute

Congratulations! An instance of this software is successfully deployed on EC2!

AMI ID: ami-0bcc3eccd8134e445 [\(View Launch Configuration Details\)](#)

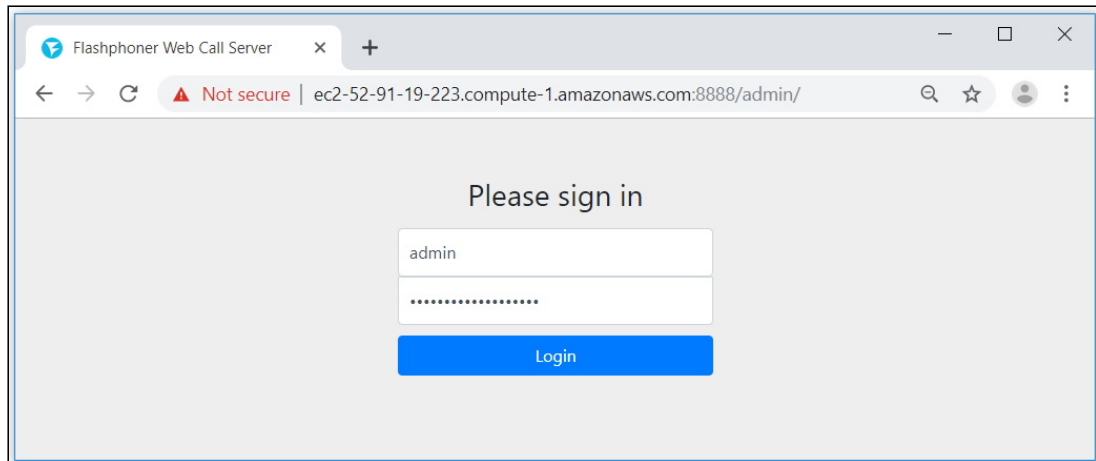
You can view this instance on [EC2 Console](#). You can also view all instances on [Your Software](#). Software and AWS hourly usage fees apply when the instance is running and will appear on your monthly bill.

10. Click on **EC2 Console** link. Find the launched virtual machine in the **Instances** section. See the **Public DNS** column for the host name

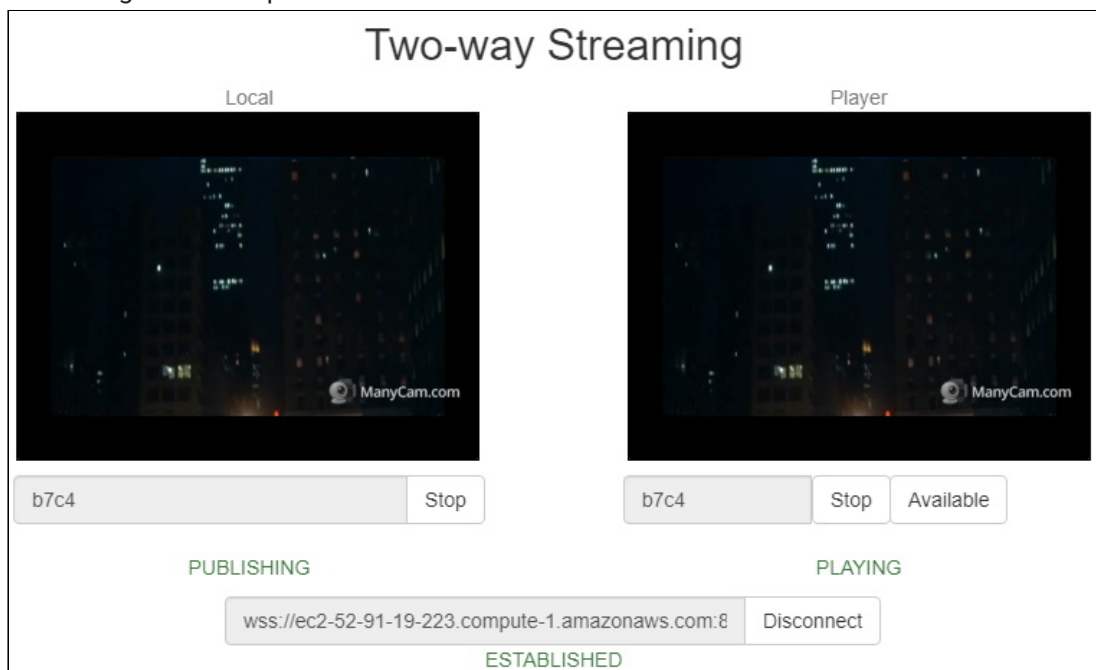
<input type="checkbox"/>	Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Public DNS (IPv4)	IPv4 Public IP
<input checked="" type="checkbox"/>		i-0edecdee2fe0b2bb3	t2.micro	us-east-1d	running	2/2 checks passed	None	ec2-52-91-19-223 comp...	52.91.19.223

11. Open WCS server web interface <https://host.amazonaws.com:8888> in your browser and accept security exception. Use the Instance ID of the launched virtual machine as the

administrator password:



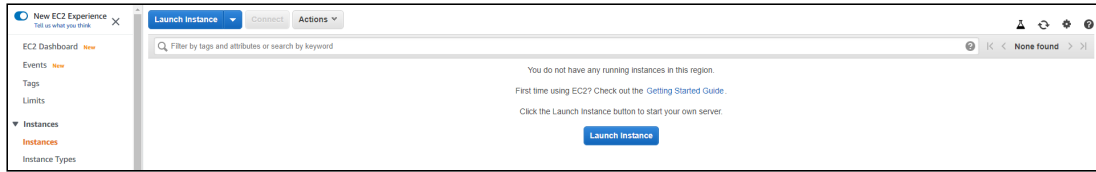
12. Check WebRTC streaming from web camera and playing the stream using Two-way Streaming web example:



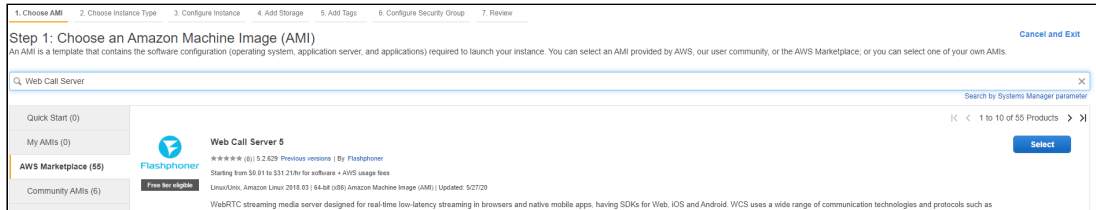
WCS deployment from AWS Marketplace image with custom settings

AWS Marketplace image contains only basic WCS settings. To customize the server, it is necessary to connect to the instance via SSH and restart WCS. However, to get ready to launch server "out of the box", it is possible to set up user script to reconfigure the server during the first start. This can be useful, for example, to deploy [autoscaling group](#).

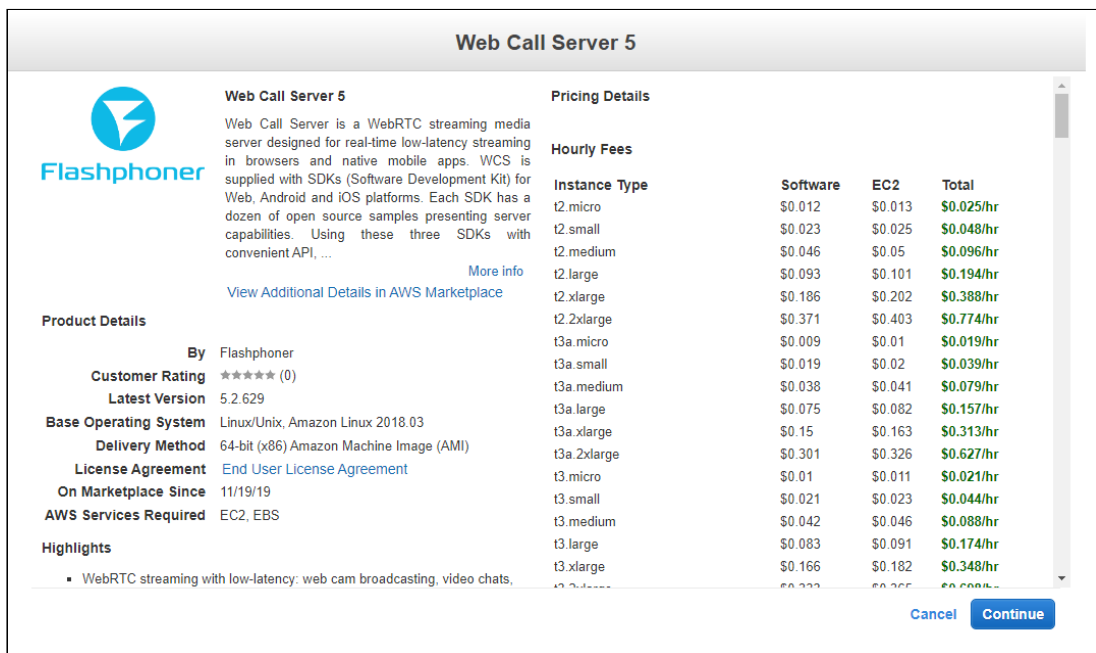
1. In EC2 Console go to **Instances - Instances** section and click **Launch instance**



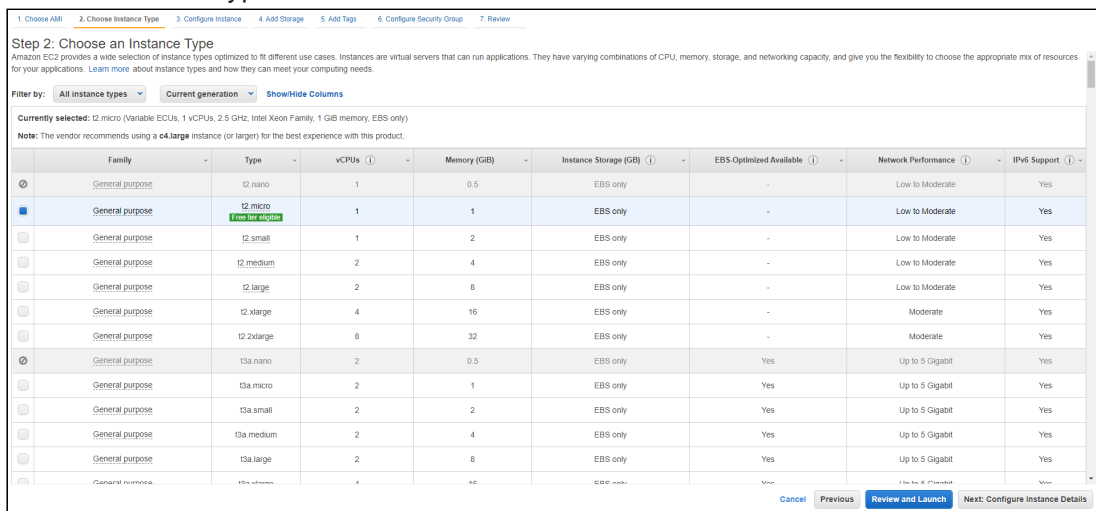
2. Choose Marketplace AMI "Web Call Server" using search string



3. Review AMI information



4. Choose instance type



5. Scroll down **Configure Instance Details** page to the end and insert custom update and setup script to **User data** text box

Step 3: Configure Instance Details

Advanced Details

Metadata accessible: Enabled

Metadata version: V1 and V2 (token optional)

Metadata token response hop limit: 1

User data: service webcallserver stop
fi

Update WCS to the latest build (optionally, set to false if you don't)
UPDATE=true
if \$UPDATE; then
 cd /tmp
 wget --timeout=10 --no-check-certificate https://flashphoner.com/download-wcs5.2-server.tar.gz -O wcs5-server.tar.gz
 if [\$? -eq 0]; then
 mkdir -p FlashphonerWebCallServer-5.2-latest && tar xzf wcs5-server.tar.gz -C FlashphonerWebCallServer-5.2-latest --strip-components 1
 cd FlashphonerWebCallServer-5.2-latest
 chmod +x install.sh
 ./install.sh -silent
 cd ..
 rm -rf FlashphonerWebCallServer-5.2-latest wcs5-server.tar.gz
 fi
fi

Configuration setup
WCS_CONFIG=/usr/local/FlashphonerWebCallServer/conf/flashphoner.properties
JVM_CONFIG=/usr/local/FlashphonerWebCallServer/conf/wcs-core.properties

#CDN settings
CDN_ROLE=origin
CDN_IP=0.0.0.0
echo -e "\ncdn_ip=\$CDN_IP" >> \$WCS_CONFIG
echo -e "\ncdn_role=\$CDN_ROLE" >> \$WCS_CONFIG
echo -e "\ncdn_resolve_ip=false" >> \$WCS_CONFIG

Record keepframes from WebRTC publishers every 5 seconds

Cancel Previous Review and Launch Next: Add Storage

The setup script example to update WCS to latest build and to configure Origin server for WebRTC and RTMP streams publishing
??? example "Origin setup script"

```
#!/bin/bash

# Stop WCS before reconfiguring
PID=$(pgrep -f 'com.flashphoner.server.Server' | grep -v bash)
if [ -n "$PID" ]; then
    service webcallserver stop
fi

# Update WCS to the latest build (optionally, set to false if you don't)
UPDATE=true
if $UPDATE; then
    cd /tmp
    wget --timeout=10 --no-check-certificate
https://flashphoner.com/download-wcs5.2-server.tar.gz -O wcs5-
server.tar.gz
    if [ $? -eq 0 ]; then
        mkdir -p FlashphonerWebCallServer-5.2-latest && tar xzf wcs5-
server.tar.gz -C FlashphonerWebCallServer-5.2-latest --strip-components 1
        cd FlashphonerWebCallServer-5.2-latest
        chmod +x install.sh
        ./install.sh -silent
        cd ..
        rm -rf FlashphonerWebCallServer-5.2-latest wcs5-server.tar.gz
    fi
fi

# Configuration setup
WCS_CONFIG=/usr/local/FlashphonerWebCallServer/conf/flashphoner.properties
JVM_CONFIG=/usr/local/FlashphonerWebCallServer/conf/wcs-core.properties

#CDN settings
CDN_ROLE=origin
CDN_IP=0.0.0.0
echo -e "\ncdn_ip=$CDN_IP" >> $WCS_CONFIG
echo -e "\ncdn_role=$CDN_ROLE" >> $WCS_CONFIG
echo -e "\ncdn_resolve_ip=false" >> $WCS_CONFIG
```



```

echo -e "\ncdn_ip=$CDN_IP" >> $WCS_CONFIG
echo -e "\ncdn_role=$CDN_ROLE" >> $WCS_CONFIG
echo -e "\ncdn_nodes_resolve_ip=false" >> $WCS_CONFIG

# Request keyframes from WebRTC publishers every 5 seconds
echo -e "\nperiodic_fir_request=true" >> $WCS_CONFIG

# Disable RTMP keepalives to publish from OBS
echo -e "\nkeep_alive.enabled=websocket,rtmfp" >> $WCS_CONFIG

# Configure heap settings
HEAP_SIZE=512m
sed -i -e "s/^\(-Xmx\).*\$/\1$HEAP_SIZE/" $JVM_CONFIG

# Start WCS after reconfiguring
PID="$(pgrep -f 'com.flashphoner.server.Server' | grep -v bash)"
if [ -n "$PID" ]; then
    service webcallserver restart
else
    service webcallserver start
fi

# Disable internal firewall, ports are allowed/blocked on security group level
iptables -F

```

6. Configure security group. By default, the security group will be created from AMI settings. Add the necessary ports

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

Step 6: Configure Security Group

A security group is a set of firewall rules that control the traffic for your instance. On this page, you can add rules to allow specific traffic to reach your instance. For example, if you want to set up a web server and allow Internet traffic to reach your instance, add rules that allow unrestricted access to the HTTP and HTTPS ports. You can create a new security group or select from an existing one below. [Learn more](#) about Amazon EC2 security groups.

Assign a security group: ☒ Create a new security group
☐ Select an existing security group

Security group name:

Description:

Type	Protocol	Port Range	Source	Description
SSH	TCP	22	Custom 0.0.0.0/0	e.g. SSH for Admin Desktop
Custom TCP	TCP	554	Custom 0.0.0.0/0	e.g. SSH for Admin Desktop
Custom UDP	UDP	30000 - 33000	Custom 0.0.0.0/0	e.g. SSH for Admin Desktop
Custom TCP	TCP	8080 - 8084	Custom 0.0.0.0/0	e.g. SSH for Admin Desktop
Custom TCP	TCP	8443 - 8445	Custom 0.0.0.0/0	e.g. SSH for Admin Desktop
Custom TCP	TCP	8888	Custom 0.0.0.0/0	e.g. SSH for Admin Desktop
Custom TCP	TCP	9091	Custom 0.0.0.0/0	e.g. SSH for Admin Desktop
Custom TCP	TCP	1935	Custom 0.0.0.0/0	e.g. SSH for Admin Desktop
Custom UDP	UDP	1935	Custom 0.0.0.0/0	e.g. SSH for Admin Desktop

[Add Rule](#)

Warning

Rules with source of 0.0.0.0/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.

[Cancel](#) [Previous](#) [Review and Launch](#)

7. Click **Review and Launch**. If all the parameters are correct, click **Launch**

Step 7: Review Instance Launch

AMI Details

Web Call Server 5

Root Device Type: ebs Virtualization type: hvm

Hourly Software Fees: \$0.012 per hour on t2.micro instance. Additional taxes or fees may apply. Software charges will begin once you launch this AMI and continue until you terminate the instance.

By launching this product, you will be subscribed to this software and agree that your use of this software is subject to the pricing terms and the seller's End User License Agreement

Instance Type

Instance Type	ECUs	vCPUs	Memory (GiB)	Instance Storage (GiB)	EBS-Optimized Available	Network Performance
t2.micro	Variable	1	1	EBS only	-	Low to Moderate

Security Groups

Security group name: WCS

Description: This security group was generated by AWS Marketplace and is based on recommended settings for Web Call Server 5 version 5.2.629 provided by Flashphoner

Type	Protocol	Port Range	Source	Description
SSH	TCP	22	0.0.0.0/0	
Custom TCP Rule	TCP	554	0.0.0.0/0	
Custom UDP Rule	UDP	30000 - 33000	0.0.0.0/0	
Custom TCP Rule	TCP	8080 - 8084	0.0.0.0/0	
Custom TCP Rule	TCP	8443 - 8445	0.0.0.0/0	
Custom TCP Rule	TCP	8888	0.0.0.0/0	
Custom TCP Rule	TCP	9091	0.0.0.0/0	

Cancel Previous Launch

Server instance will be launched

Launch Instance Connect Actions

Filter by tags and attributes or search by keyword

Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Public DNS (IPv4)	IPv4 Public IP	IPv6 IPs	Key Name
	i-015be2f0620230111	t2.micro	eu-west-1a	terminated		None				test_userdat
	i-0f2d75e04cd193be	t2.micro	eu-west-1a	running	2/2 checks	None	ec2-54-194-242-44.eu-west-1.compute.amazonaws.com	54.194.242.44		test_userdat

8. Open WCS web interface, publish **test** stream in Two Way Streaming example and play it

Flashphoner Web Call Server

Not secure | 54.194.242.44:8444/admin/demo.html#

Demo Security License v.0.5.28.2753-5.2.695-8b089842c6d8272

Streaming

Streamer

Player

Two-Way Streaming

Firewall Streamin

WebRTC as RTMF

Stream Recording

Several Streams Recording


Stream Snapshot

Stream Diagnosti

Screen Sharing


Two-way Streaming

Local



test Stop

Player



test Stop Available

PUBLISHING

PLAYING

wss://54.194.242.44:8443 Disconnect

ESTABLISHED

Known issues

1. After migration to Amazon Linux 2 AMI as basic image, systemd is used for services management



Symptoms

The command

```
sudo service webcallserver start
```

returns

```
Redirecting to /bin/systemctl start webcallserver.service
```

the command

```
sudo service webcallserver check_update
```

does not work



Solution

a) use `systemctl` to start, stop, restart WCS

```
sudo systemctl start webcallserver
sudo systemctl stop webcallserver
sudo systemctl restart webcallserver
```

b) use `webcallserver` script to check updates

```
cd /usr/local/FlashphonerWebCallServer/bin
sudo ./webcallserver check_update
sudo ./webcallserver update
```