

FirstStep.ai IP Camera Configuration

Setup Guide

Camera: Dahua IP Camera (various models)

Document Revision: 2022-08-20





1. Introduction

1.1 Purpose

The purpose of this installation is to set up a Dahua IP Camera for use with FirstStep.ai Image Capture application, and FirstStep.ai IoT application (NVIDIA Jetson Nano EDGE Device).

1.2 Outcomes

The outcome of this tutorial is to configure a Dahua camera with the following settings:

- Username: admin
- Password: admin1234
- Recovery Email Address: <your email address>
- A static IP address: **192.168.3.x**

1.3 Validation Testing

We will validate this configuration by testing the RTSP stream using VLC Media Player.



2. Hardware Setup

2.1 Cable Connections

Connect Dahua camera as follows:

- Power to camera (12V)
- Ethernet Cable to your computer

Schematic:



Practically, the connectors should looks as follows:





2.2. Laptop Ethernet IP Address to Dahua default range

The default IP address of the Dahua camera is: 192.168.1.108

Ensure that your ethernet port is configured to use the **192.168.1.x range** (either static or DHCP mode). To do this, open Network Connections.



Right click your ethernet gateway, and select Properties.

Select: Internet Protocol Version 4 (TCP/IPv4) > Properties

Ethernet Properties	<
Networking Sharing	
Connect using:	
Killer E2500 Gigabit Ethernet Controller	
Configure This connection uses the following items:	
Client for Microsoft Networks File and Printer Sharing for Microsoft Networks VirtualBox NDIS6 Bridged Networking Driver QoS Packet Scheduler Bridae Driver Internet Protocol Version 4 (TCP/IPv4) Microsoft Network Adapter Multiplexor Protocol < >>	
Install Uninstall Properties	
Description Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks. OK Cancel	

Configure your settings as follows:



• IP address:

192.168.1.3 (You can use any IP address except 192.168.1.108)

- Subnet mask: 255.255.255.0 •
- Default gateway:
- 192.168.1.1 • Preferred DNS server: 192.168.1.3
- Validate settings upon exit: False •

Then click OK.

Internet Protocol Version 4 (TCP/IPv4)	Properties ×
General	
You can get IP settings assigned auton this capability. Otherwise, you need to for the appropriate IP settings.	natically if your network supports ask your network administrator
Obtain an IP address automatical	у
Ouse the following IP address:	
IP address:	192.168.1.3
Subnet mask:	255.255.255.0
Default gateway:	192.168.1.1
Obtain DNS server address autom	natically
Use the following DNS server add	resses:
Preferred DNS server:	192.168.1.3
Alternate DNS server:	
Validate settings upon exit	Advanced
	OK Cancel



2.3 Install Dahua Config Tool

Download and install Dahua ConfigTool (download link) on your computer.

2.4 Initialize Camera

Open the Dahua ConfigTool.



After a few seconds your IP camera should appear in the list as "Uninitialized".

Ņ	Configtool		1 D	evice(s) foun	d	¢			Search Se	etting 🛡	- ×
₽	Modify IP	, I	nitialize	Batch Mo	dify IP	Import Expo	rt Manual Add	Delete	Se	arch	
ŧ	Device Upgrade		NO.	Status	Туре	Model	IP	MAC	Version	Operate	
0	Device Config		1	Uninitialized	IPC	IPC-HDBW2431	E 192.168.1.108	24:52:6a:3a:ba:e	1 V2.800.000	Edit Details	Web
0	System Settings										
⋳	Password Reset										
П	Building Config										
88	CGI Protocol										



Check the box, and select Initialize.



Set the username and password as follows:

- Username: admin
- Password: admin1234
- Email Address: <your email address>

Device initialization	x
1	device(s) have not been initialized
Username	admin
New Password	•••••
Openform Dependent	Weak Medium Strong
Confirm Password	Use a password that has 8 to 32 characters, it can be
	a combination of letter(s), number(s) and symbol(s) with at least two kinds of them. (excluding single quote('), double quote(''), colon(:), semicolon(;), connection symbol(&))
Email Address	s****rt@firststep.ai (for password reset)
Select P/N	PAL -
*After you have set new	password, please set password again in "Search Setting".
	Next

Optional: De-select "Easy4ip".





Your device should now be listed as "Initialized".

Ņ	Configtool	1 De	evice(s) four	d C				Search Se	tting	▼ - ×
P	Modify IP	nitialize	Batch M	odify IP In	nport Export	Manual Add	Delete	Se	arch	
Ŧ	Device Upgrade	NO.	Status	Туре	Model	IP	MAC	Version	Operate	
ø	Device Config	1	Initialized	IPC	IPC-HDBW2431E	192.168.1.108	24:52:6a:3a:ba:e1	V2.800.000	Edit Det	ails Web
۲	System Settings									
æ	Password Reset									
П	Building Config									
88	CGI Protocol									
		You hav	ve selected	d 1 device(s)	✓ Uninitialized	Initialized		IPV4	IPV6	

Close the ConfigTool application.



2.4 Connect to Camera via web portal

Open a web browser (e.g. Chrome, Firefox)

Enter the default IP address into the URL bar: 192.168.1.108

S Login	×	+		
\leftrightarrow \Rightarrow G	A Not secure 19	92.168.1.108	☆ 👶	Incognito :
	Alb	112		
	CETECHNOLOG	uа _{GY}		
	Use	ername:		
	Ра	issword:	Forgot password?	
		Login Cancel		

Now, login with the username and password set above (admin / admin1234).



2.4 Configure Camera IP address

Navigate to Settings > Network > TCP/IP and edit the IP fields as follows:

- IP Address: **192.168.3.20x** (e.g. 192.168.3.200, 192.168.3.201, 192.168.3.202)
- Subnet Mask: **255.255.255.0**
- Gateway: **192.168.3.1**

Then click Save.

S Setting	× +				
← → C ▲ Not se	ecure 192.168.1.108			*	lncognito
alhua			Live	Playback	Setting
Camera	TCP/IP				
TCP/IP	Host Name	IPC			
> Port > PPPoE > DDNS	Ethernet Card Mode	Wire(Default) Static O DHCP			
> SMTP(Email) > UPnP	MAC Address IP Version	24 . 52 . 6a . 3a . IPv4 ✔	ba . e1		
> Bonjour > Multicast	IP Address Subnet Mask	192. 168. 3. 200 255. 255. 255. 0			
> Auto Register	Default Gateway	192.168.3.1			
> 802.1x > QoS	Alternate DNS	8.8.4.4			
> Access Platform	Enable ARP/Ping to s	set IP address service			
Storage		Default	sh Save		
 System Information 					

Important Note: Changing the IP address to the 192.168.3.x range means that you will no longer be able to access the IP camera via the Web interface while your Ethernet IP address is set to 192.168.1.x range. You will see the following error if you navigate to the 192.168.3.200 ip address in a web server.





2.5. Set Laptop IP Range to new camera range

The IP address of the Dahua camera should now be: 192.168.3.200

Open Network Connections.



Right click your ethernet gateway, and select Properties.

Select: Internet Protocol Version 4 (TCP/IPv4) > Properties

Ethernet Properties	\times
Networking Sharing	
Connect using:	
🛃 Killer E2500 Gigabit Ethemet Controller	1
Configure	i I
This connection uses the following items:	
Client for Microsoft Networks File and Printer Sharing for Microsoft Networks VirtualBox NDIS6 Bridged Networking Driver QoS Packet Scheduler Bridge Driver Intermet Protocol Version 4 (TCP/IPv4) Microsoft Network Adapter Multiplexor Protocol	
Install Uninstall Properties	J
Description Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks.	
OK Canaal	

Configure your settings as follows:



- IP address:
- Subnet mask:
- Default gateway:
- 192.168.3.1 Preferred DNS server: 192.168.3.3 •
- Validate settings upon exit: False •

Then click OK.

Internet Protocol Version 4 (TCP/IPv4)	Properties ×
General	
You can get IP settings assigned auton this capability. Otherwise, you need to for the appropriate IP settings.	natically if your network supports ask your network administrator
Obtain an IP address automatical	у
• Use the following IP address:	
IP address:	192.168.3.3
Subnet mask:	255 . 255 . 255 . 0
Default gateway:	192.168.3.1
Obtain DNS server address autom	natically
• Use the following DNS server add	resses:
Preferred DNS server:	192.168.3.3
Alternate DNS server:	
Validate settings upon exit	Advanced
	OK Cancel

192.168.3.3 (default FirstStep server IP address)

255.255.255.0



2.6. Validate New Camera IP Address (Browser)

Open a web browser (e.g. Chrome, Firefox) and entering the camera's IP address into the URL bar (e.g. <u>http://192.168.3.200/</u>). You should see the Dahua admin portal login screen appear.

3	Logir	ı				×	+						
÷	→	G	▲	Not see	ure	192.1	168.2.2	200		☆	⊜	Incognito	:
_		(ล	hı	a	7					10		
			- TECI	HNOLOGY	-	-	-	-	_				
				Usern	ame:								
				Passv	vord:					Fo	rgot pa	ssword?	
						L	ogin		Cancel				
				_					_	_		_	



2.6. Validate New Camera IP Address with VLC

To validate the RTSP stream, install and open VLC Media Player (download link).

Click Media > Open Network Stream..., and enter the following URL:

• rtsp://admin:admin1234@192.168.3.200:554

Open Media				—		\times
🕨 File 🛛 🚱 Disc	Network	Capture Device				
Network Protocol						
Please enter a network URI	192.168.2.200:554				~	
http://www.example.com rtp://@:1234 mms://mms.examples.com rtsp://server.example.org http://www.yourtube.com	/stream.avi n/stream.asx 8080/test.sdp n/watch?v=gg64x					
_						
Show more options			Play	•	Cancel	

The result should be a live stream from the IP camera:





2.7. Connecting Multiple Cameras

If you connect multiple cameras using a USB to Ethernet adaptor, we recommend the following setup:





Congratulations, your IP camera setup is now complete. You have completed this tutorial.

Support

For support this setting up your IP camera, contact: support@firststep.ai



<u>Troubleshooting</u>

Issue #1: Device does not appear in list

If your device does not appear, check power, and ethernet cables, and confirm that your computer ethernet range is set correctly. Then click the "refresh" icon.

