



WRN-1632(S) & WRN-816S

Network Configuration Manual



WRN-1632(S) & WRN-816S

Network Configuration Manual

Introduction

DHCP servers automatically assign IP addresses and other network parameters to devices on a network. This is often used to make it easier for network administrators to add or move devices on a network.

The WRN-1632(S) and WRN-816S series of recorders can utilize an onboard DHCP server to provide IP addresses to cameras connected to the recorder's onboard PoE switch as well as devices connected to an external PoE switch connected via Network Port 1. This guide was created to help the user understand how to configure the network interfaces on the unit to properly connect to attached cameras and prepare them for connection in Wisenet WAVE VMS.

Table of Contents

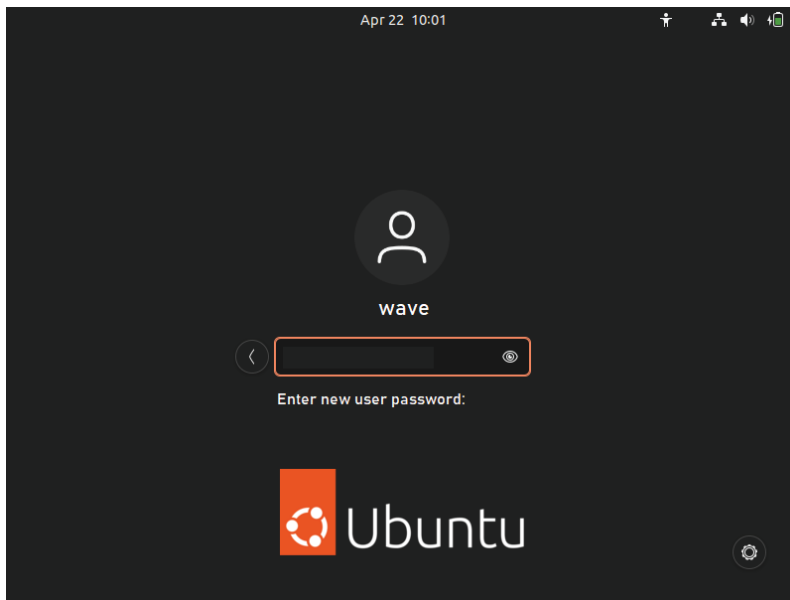
Introduction	1
System Initialization	2
System Password	2
System Time and Language	3
Connecting Cameras	4
Utilizing the Onboard DHCP Server for Camera Network	5
Utilizing an External DHCP Server for the Camera Network	12
WRN Configuration Tool: The Toggle PoE Power Feature	19

System Initialization

System Password

Wisenet WAVE WRN series recorder devices utilize the Ubuntu OS and are preconfigured with the “wave” user account. After powering on your WRN unit, you are required to set the Ubuntu password for the wave user account.

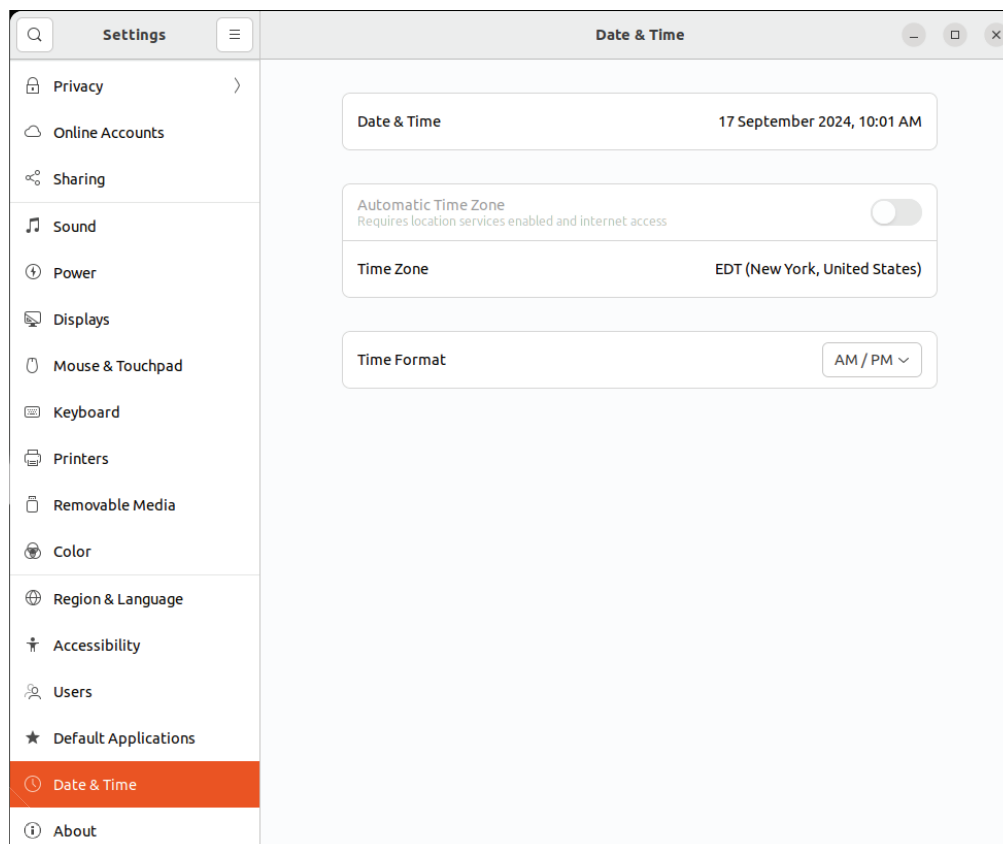
Input a secure password.



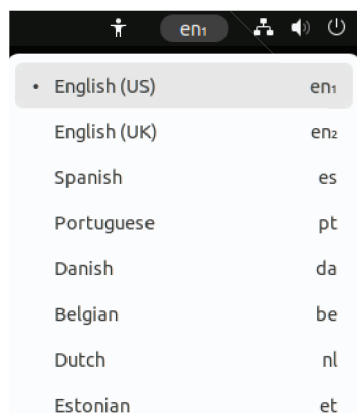
System Time and Language

Before recording begins it is important to ensure that the clock is set correctly.

1. Verify the time and date from the menu Applications > Settings > Date and Time.
2. If you have Internet access, you can select the Automatic Date & Time and Automatic Time Zone options, or manually adjust the clock as needed.

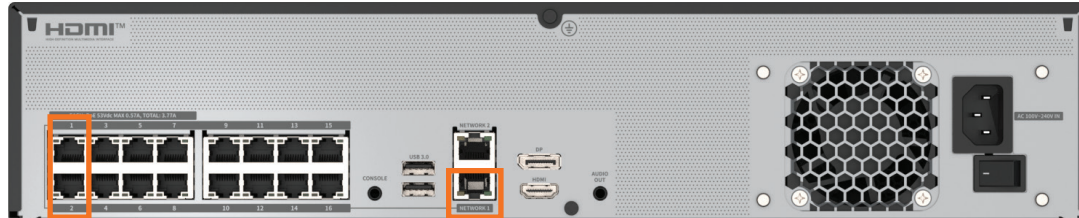


3. If you need to adjust the Language or keyboard, click on the en1 drop down from the login screen or the main desktop, or via Applications > Settings > Region & Language.



Connecting Cameras

1. Connect cameras to your recorder via the onboard PoE switch or through an external PoE switch, or both.
2. When using an external PoE switch, plug the external switch into Network Port 1.



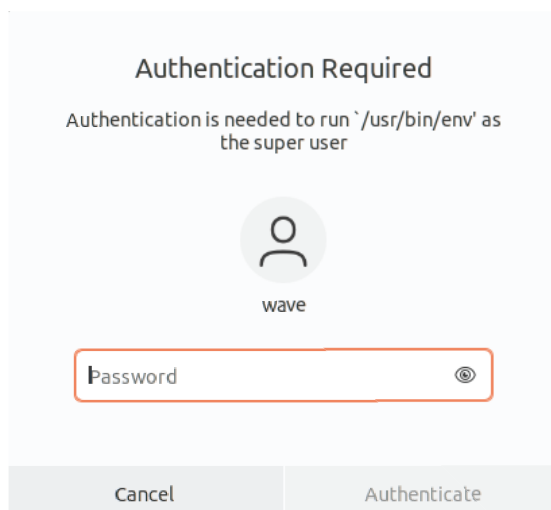
Utilizing the Onboard DHCP Server

To utilize the WRN recorder's onboard DHCP server, several steps must be followed. These steps include switching from the WRN Configuration Tool to the configuration of Ubuntu network settings.

1. Confirm that there are NO external DHCP servers operating on the network that connects to your WRN recorder's Network 1 Port. (If there is a conflict, Internet access for other devices on the network will be affected.)
2. Start the WRN Configuration tool from the side Favorite bar.



3. Enter the Ubuntu user password and click OK.



4. Click Next on the Welcome page.

5. Enable the DHCP server for PoE Ports and provide the Start and End IP addresses. In this case we will use 192.168.55 as the subnet

NOTE: The start and end IP addresses must be accessible by the Network 1 (Camera Network) subnet. We will need this information to input an IP address on the Camera Network interface (eth0).

IMPORTANT: Do not use a range that will interfere with the predefined Ethernet (eth0) interface 192.168.1.200 or 223.223.223.200 used for onboard PoE switch configuration.

The screenshot shows the 'WRN Configuration Tool' window with the 'Network' tab selected. The configuration details are as follows:

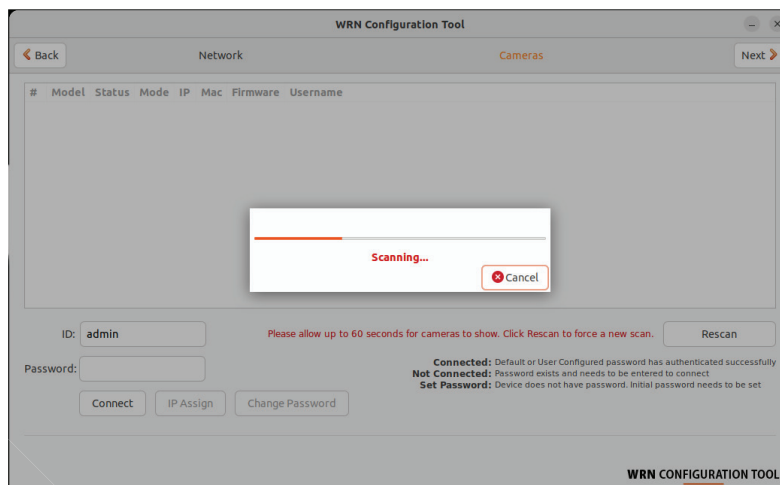
Field	Value
Network 1 (Camera):	192.168.1.200
Network 2 (Corporate):	172.24.1.42
Enable DHCP for PoE Ports:	<input checked="" type="checkbox"/>
Start IP:	192.168.55.2
End IP:	192.168.55.52
Max DHCP Users:	50
Lease Time (Hours):	120
Primary DNS:	8.8.8.8
Secondary DNS:	8.8.4.4

The 'Next' button is visible in the top right corner. The bottom right corner of the window displays 'WRN CONFIGURATION TOOL'.

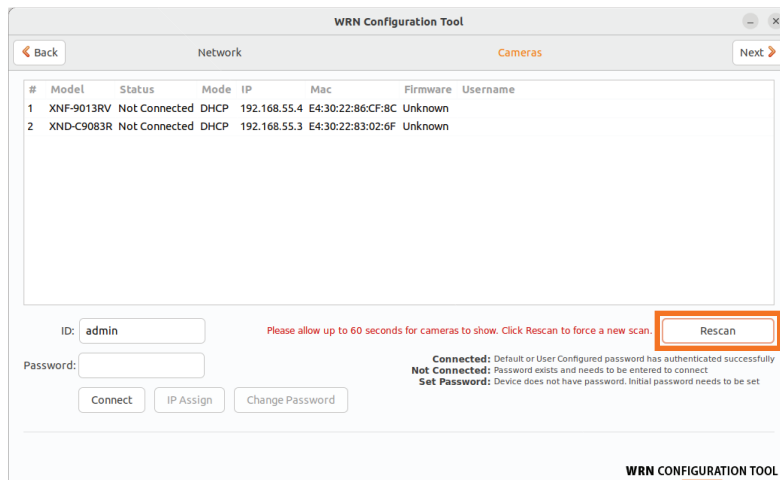
6. Provide any changes to the DHCP server settings as per your requirements.
7. Once you have completed all the settings, click Next.
8. Click Yes to confirm your settings.



9. The PoE ports will now deliver power to the cameras allowing camera discovery to begin. Please wait for the initial scan to be completed.



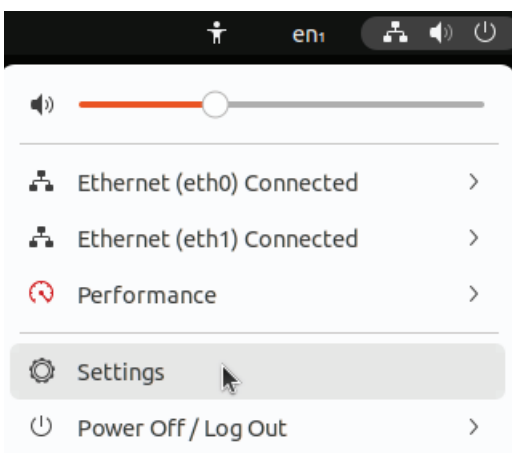
10. Click the Rescan button if needed to begin a new scan if all cameras are not discovered.



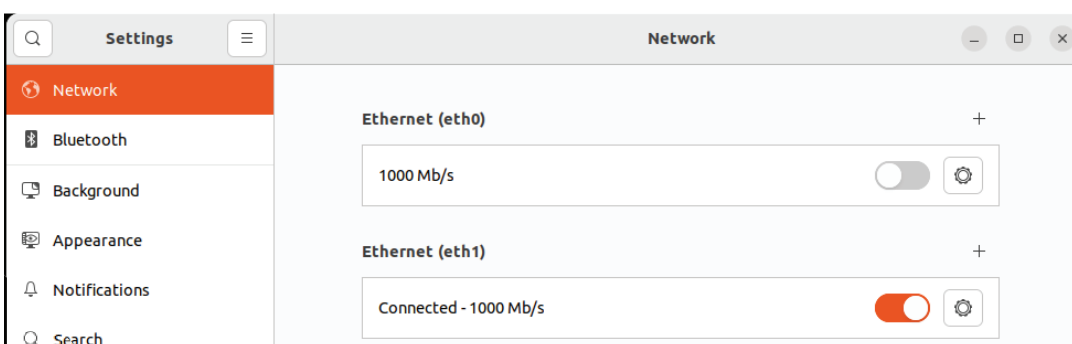
11. Without closing the configuration tool, click on the Network Icon on the top right corner of the screen to open the Network settings menu.

12. Click on Settings

- Ethernet (eth0) (In Ubuntu) = Camera Network = Network 1 Port (as printed on unit)
- Ethernet (eth1) (In Ubuntu) = Coporate Network (Uplink) = Network 2 Port (as printed on unit)



13. Toggle the Ethernet (eth0) network port to the OFF position.



14. Click on the Gear icon for the Ethernet (eth0) interface to open network settings.

15. Click on the IPv4 tab.

16. Set the IP address. Use an IP address outside of the range defined in the WRN

Configuration Tool in Step 5. (For our example, we will use 192.168.55.100 to be outside of the defined range while remaining on the same subnet.)

NOTE: If the configuration tool has assigned an IP address, in this case 192.168.55.1, it will need to be changed as addresses ending in ".1" are reserved for gateways.

IMPORTANT: Do not remove the 192.168.1.200 and 223.223.223.200 addresses as they are required to work with the PoE switch web interface, this is true even if you have a WRN-1632 without the PoE interface.

17. If 192.168.55.1 was not assigned, enter a static IP address to be on the same subnet as defined previously.

The screenshot shows the 'Wired' network configuration window with the 'IPv4' tab selected. The 'IPv4 Method' is set to 'Manual'. The 'Addresses' table lists three static IP addresses with their corresponding netmasks and empty gateway fields.

Address	Netmask	Gateway
192.168.1.200	255.255.255.0	
223.223.223.200	255.255.255.0	
192.168.55.100	255.255.255.0	

18. Click Apply.

19. Toggle Network 1 on your WRN recorder, Ethernet (eth0), to the ON position.

The screenshot shows the 'Settings' application with the 'Network' tab selected. It displays two network interfaces: 'Ethernet (eth0)' and 'Ethernet (eth1)'. Both are currently 'Connected - 1000 Mb/s' and have their status toggles turned on (indicated by red switches).

20. If needed, repeat the above steps for the Ethernet (eth1) / Corporate / Network 2 to connect the other network interface to another network (ex: for remote viewing while keeping the camera's network isolated).

21. Return to the WRN Configuration Tool.

22. If the discovered cameras display a Need Password status:

- a) Select one of the cameras indicating a need password status.
- b) Enter a camera password.
- c) Please refer to the Wisenet camera manual for more information on the required password complexity.
- d) Verify camera password entered.

23. Click on Set Password.

#	Model	Status	Mode	IP	Mac	Firmware	Username
1	XNF-9013RV	Not Connected	DHCP	192.168.55.4	E4:30:22:86:CF:8C	Unknown	
2	XND-C9083R	Need Password	DHCP	192.168.55.3	E4:30:22:83:02:6F	Unknown	

ID: Please allow up to 60 seconds for cameras to show. Click Rescan to force a new scan.

New Password:

Confirm Password:

WRN CONFIGURATION TOOL

24. If the camera status displays a Not Connected status, or the cameras have already been configured with a password:

- a) Verify that the IP address of the camera is accessible.
- b) Enter the camera's current password.
- c) Click the Connect button.
- d) After a few seconds, the selected camera status will change to Connected.

#	Model	Status	Mode	IP	Mac	Firmware	Username
1	XNF-9013RV	Not Connected	DHCP	192.168.55.4	E4:30:22:86:CF:8C	Unknown	
2	XND-C9083R	Not Connected	DHCP	192.168.55.3	E4:30:22:83:02:6F	Unknown	

ID: Please allow up to 60 seconds for cameras to show. Click Rescan to force a new scan.

Password:

WRN CONFIGURATION TOOL

#	Model	Status	Mode	IP	Mac	Firmware	Username
1	XNF-9013RV	Connected	DHCP	192.168.55.4	E4:30:22:86:CF:8C	2.22.02_20231027_R333	admin
2	XND-C9083R	Connected	DHCP	192.168.55.3	E4:30:22:83:02:6F	2.22.03_20231025_R429	admin

ID: Please allow up to 60 seconds for cameras to show. Click Rescan to force a new scan.

Password:

WRN CONFIGURATION TOOL

25. If the Camera status does not change to Connected, or the cameras already have a configured password:

- a) Click on a camera row.
- b) Enter the camera's password.
- c) Click Connect.

26. If you wish to change the camera IP address mode/settings, click the IP assign button.
(Wisenet cameras default to DHCP mode.)

27. Click Next to proceed.

28. Click Yes to confirm the settings.



29. Click Next on the final page to exit the WRN Configuration Tool.

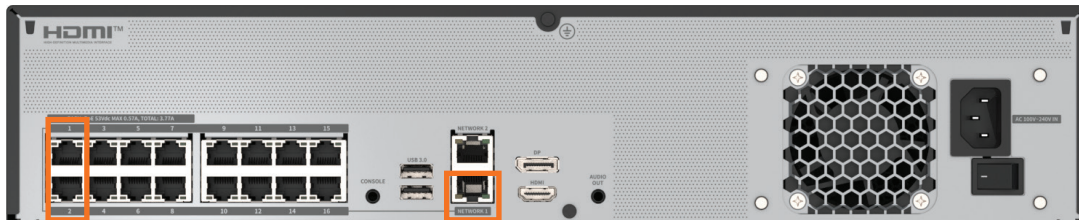
30. Launch the Wisenet WAVE Client to run the New System Configuration.

NOTE: For best performance, it is recommended to enable the Hardware Video Decoding feature from the WAVE Main Menu > Local Settings > Advanced > Use Hardware Video Decoding > Enable if supported.

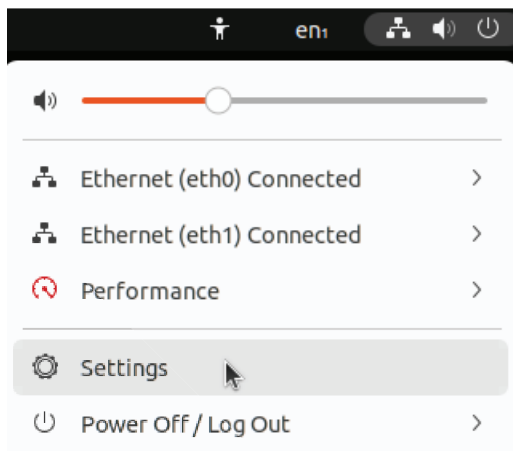
Utilizing an External DHCP Server

An external DHCP server connected to the WRN Camera Network will provide IP addresses to cameras connected to its onboard PoE switch and externally connected PoE switches.

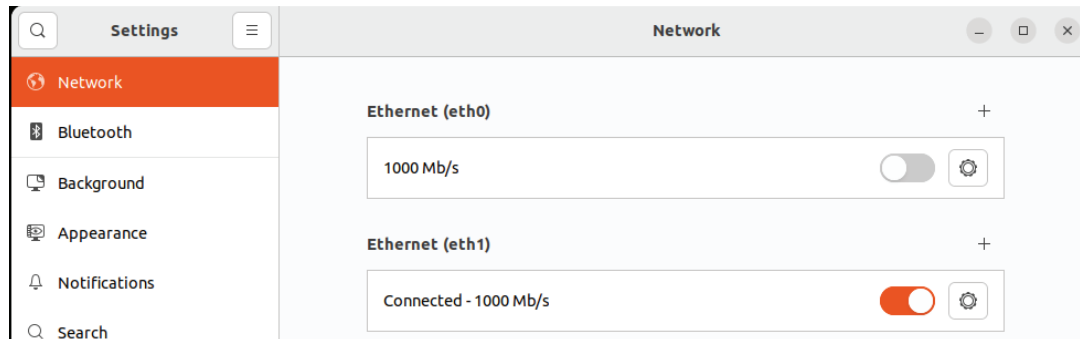
1. Confirm that there is an external DHCP server on the network that connects to the WRN unit's Network 1 Port.
2. Configure the WRN-1632(S) / WRN-816S Network Ports using the Ubuntu Network settings menu:
 - Ethernet (eth0) (In Ubuntu) = Camera Network = Network 1 Port (as printed on unit)
 - Ethernet (eth1) (In Ubuntu) = Coporate Network (Uplink) = Network 2 Port (as printed on unit)



3. From Ubuntu Desktop, click on Network Icon on the top right corner.
4. Click on Settings.



5. Toggle the Ethernet (eth0) network port to the OFF position.



6. Click on the Gear icon for the Ethernet (eth0) interface as shown in the picture above.

7. Click on the IPv4 tab.

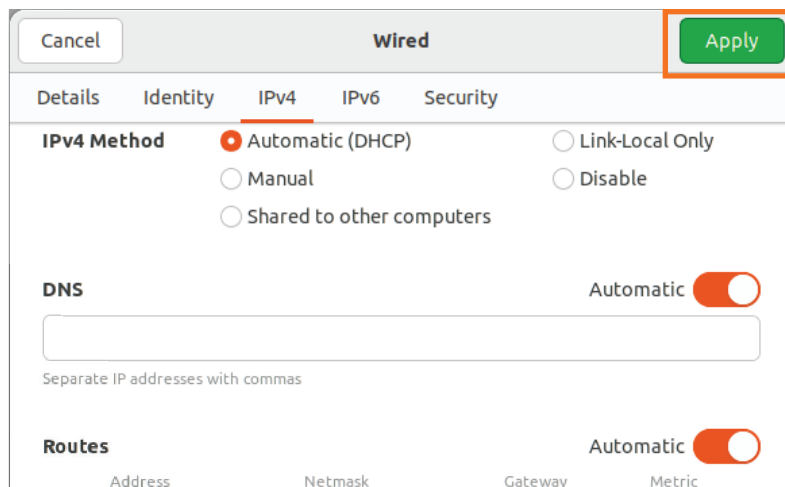
8. Use the following settings:

a) IPv4 Method to Automatic (DHCP)

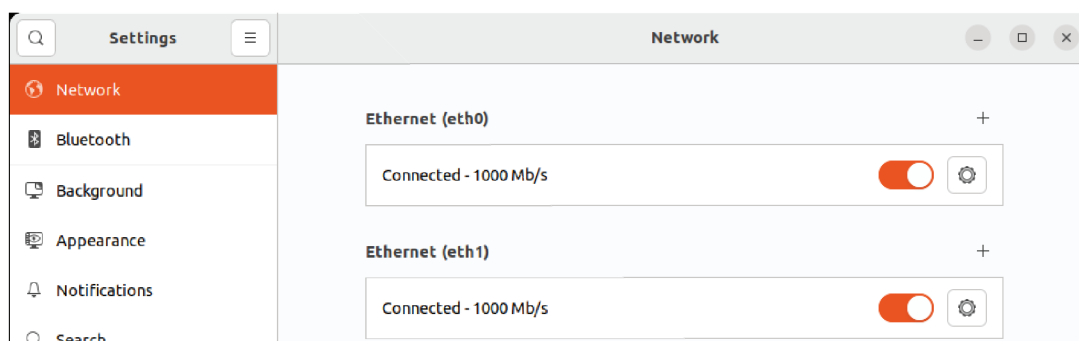
b) DNS Automatic = ON

NOTE: Depending on your network configuration, you may enter a static IP address by setting the IPv4 Method to Manual and setting DNS and Routes to Automatic = off. This will allow you to enter a static IP address, subnet mask, default gateway, and DNS information.

9. Click Apply.



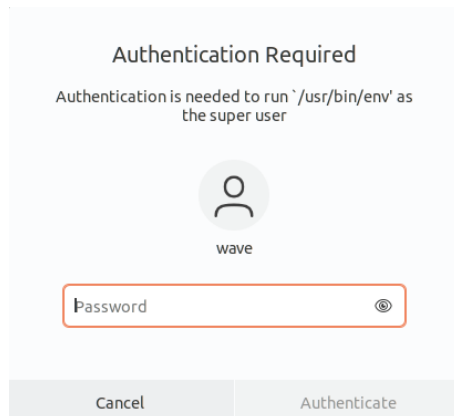
10. Toggle the Ethernet (eth0) network port to the ON position.



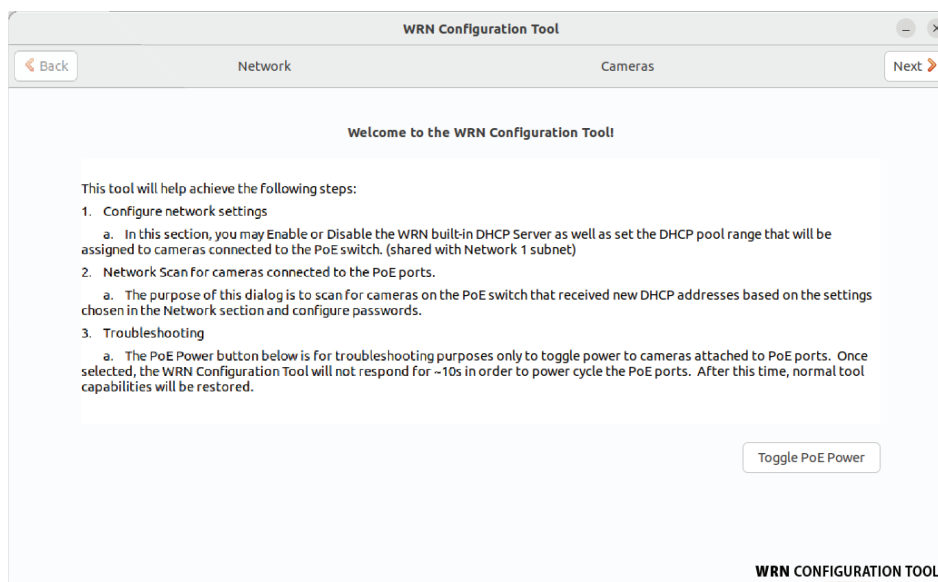
11. Start the WRN Configuration tool from the side Favorite bar.



12. Enter the Ubuntu user password and click OK.

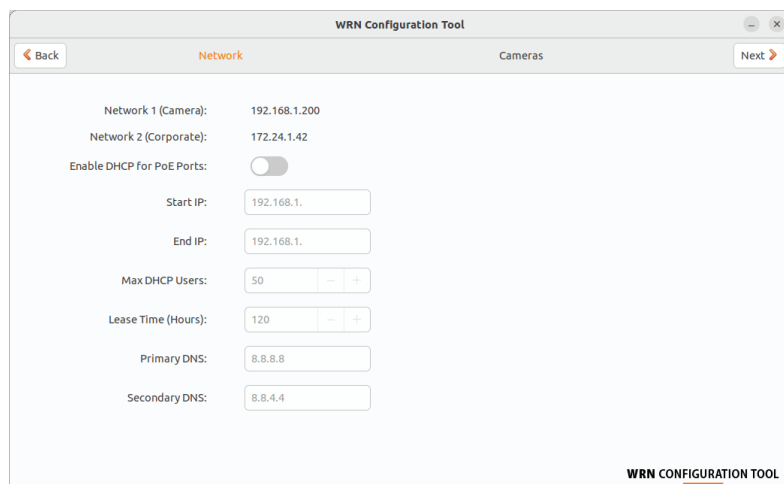


13. Click Next on the Welcome page.



14. Make sure the Enable DHCP for PoE Ports option is Off.

15. Click Next.



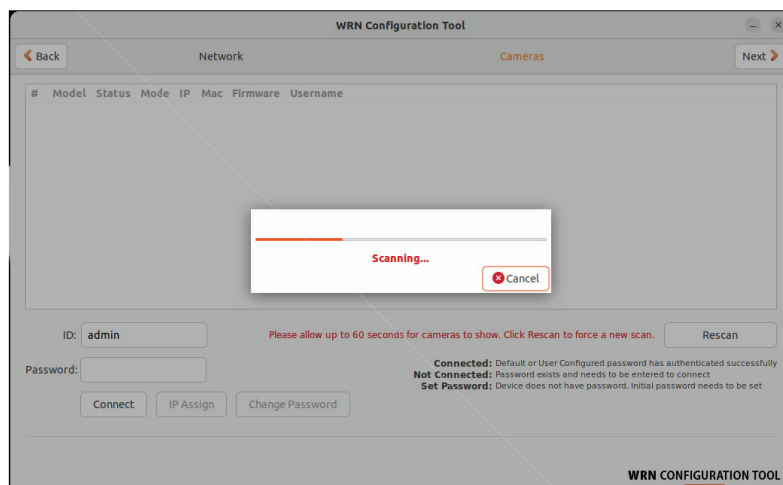
The screenshot shows the 'WRN Configuration Tool' window with the 'Network' tab selected. The 'Cameras' tab is also visible. The 'Enable DHCP for PoE Ports' option is turned off. The 'Start IP' and 'End IP' are both set to 192.168.1. The 'Max DHCP Users' is set to 50, and the 'Lease Time (Hours)' is set to 120. The 'Primary DNS' is 8.8.8.8 and the 'Secondary DNS' is 8.8.4.4. The 'Next' button is highlighted in orange.

Field	Value
Network 1 (Camera):	192.168.1.200
Network 2 (Corporate):	172.24.1.42
Enable DHCP for PoE Ports:	<input type="checkbox"/>
Start IP:	192.168.1.
End IP:	192.168.1.
Max DHCP Users:	50
Lease Time (Hours):	120
Primary DNS:	8.8.8.8
Secondary DNS:	8.8.4.4

16. Click Yes to confirm your settings.



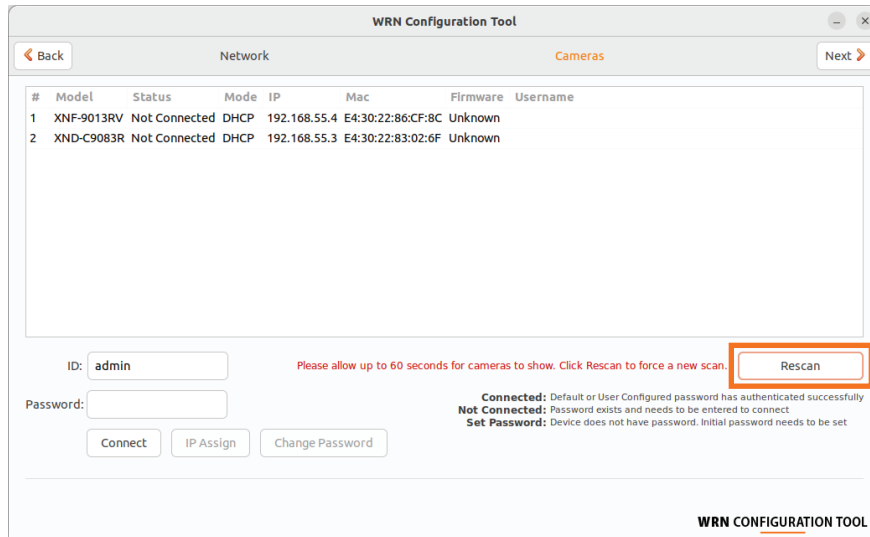
17. The PoE ports will be powered-on to deliver power to the cameras. Camera discovery will begin. Please wait for the initial scan to be completed.



The screenshot shows the 'WRN Configuration Tool' window with the 'Cameras' tab selected. A 'Scanning...' dialog box is displayed in the center, indicating that the camera discovery process is underway. The 'Rescan' button is highlighted in orange. Below the dialog box, there are fields for 'ID' (admin) and 'Password', and buttons for 'Connect', 'IP Assign', and 'Change Password'. A status message at the bottom indicates that the device is 'Connected'.

#	Model	Status	Mode	IP	Mac	Firmware	Username
---	-------	--------	------	----	-----	----------	----------

18. Click the Rescan button if needed to begin a new scan if all cameras are not discovered.



The screenshot shows the 'WRN Configuration Tool' window with the 'Cameras' tab selected. At the top, there are 'Back' and 'Next' navigation buttons. Below them is a table listing discovered cameras. The table has columns for #, Model, Status, Mode, IP, Mac, Firmware, and Username. Two cameras are listed: 1. XNF-9013RV, Not Connected, DHCP, 192.168.55.4, E4:30:22:86:CF:8C, Unknown; 2. XND-C9083R, Not Connected, DHCP, 192.168.55.3, E4:30:22:83:02:6F, Unknown. Below the table, there is a 'Rescan' button highlighted with a red box. At the bottom, there are input fields for 'ID' (set to 'admin') and 'Password', along with 'Connect', 'IP Assign', and 'Change Password' buttons. A red message states: 'Please allow up to 60 seconds for cameras to show. Click Rescan to force a new scan.' Below this, there are status messages: 'Connected: Default or User Configured password has authenticated successfully', 'Not Connected: Password exists and needs to be entered to connect', and 'Set Password: Device does not have password. Initial password needs to be set'.

#	Model	Status	Mode	IP	Mac	Firmware	Username
1	XNF-9013RV	Not Connected	DHCP	192.168.55.4	E4:30:22:86:CF:8C	Unknown	
2	XND-C9083R	Not Connected	DHCP	192.168.55.3	E4:30:22:83:02:6F	Unknown	

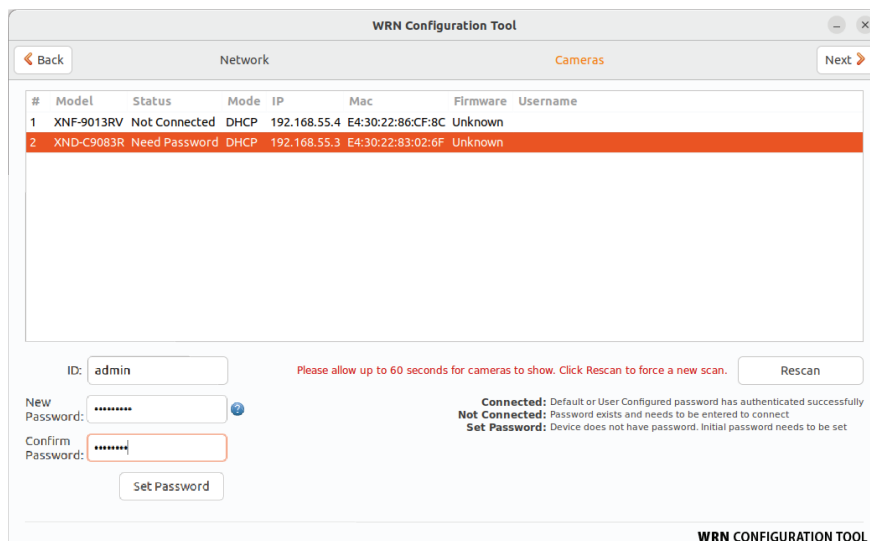
ID: Password:

Connect IP Assign Change Password

WRN CONFIGURATION TOOL

19. If the discovered Wisenet cameras display a Need Password status:

- Select one of the cameras with the "need password" status.
- Enter a camera password. (Please refer to the Wisenet camera manual for more information on the required password complexity.)
- Verify the password set.
- Click on Set Password.



The screenshot shows the 'WRN Configuration Tool' window with the 'Cameras' tab selected. The table from the previous screenshot is shown, but the second camera, XND-C9083R, now has a status of 'Need Password' and is highlighted with a red background. Below the table, the 'Rescan' button is still present. The 'ID' field is set to 'admin'. The 'New Password' field is now active and contains a series of asterisks. The 'Confirm Password' field is also active and contains a series of asterisks. A 'Set Password' button is now visible below the password fields. The same red message and status messages are present as in the previous screenshot.

#	Model	Status	Mode	IP	Mac	Firmware	Username
1	XNF-9013RV	Not Connected	DHCP	192.168.55.4	E4:30:22:86:CF:8C	Unknown	
2	XND-C9083R	Need Password	DHCP	192.168.55.3	E4:30:22:83:02:6F	Unknown	

ID: New Password: Confirm Password:

Set Password

WRN CONFIGURATION TOOL

For more information visit us at
HanwhaVisionAmerica.com



500 Frank W. Burr Blvd. Suite 43 Teaneck, NJ 07666

Toll Free : +1.877.213.1222

Direct : +1.201.325.6920

Fax : +1.201.373.0124

www.HanwhaVisionAmerica.com

© 2024 Hanwha Vision Co., Ltd. All rights reserved.

DESIGN AND SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE

Under no circumstances, this document shall be reproduced, distributed or changed, partially or wholly, without formal authorization of Hanwha Vision Co., Ltd.

* Wisenet is the proprietary brand of Hanwha Vision, formerly known as Hanwha Techwin.