IoT Implementation in ETLE

2ISA2 | GROUP 2

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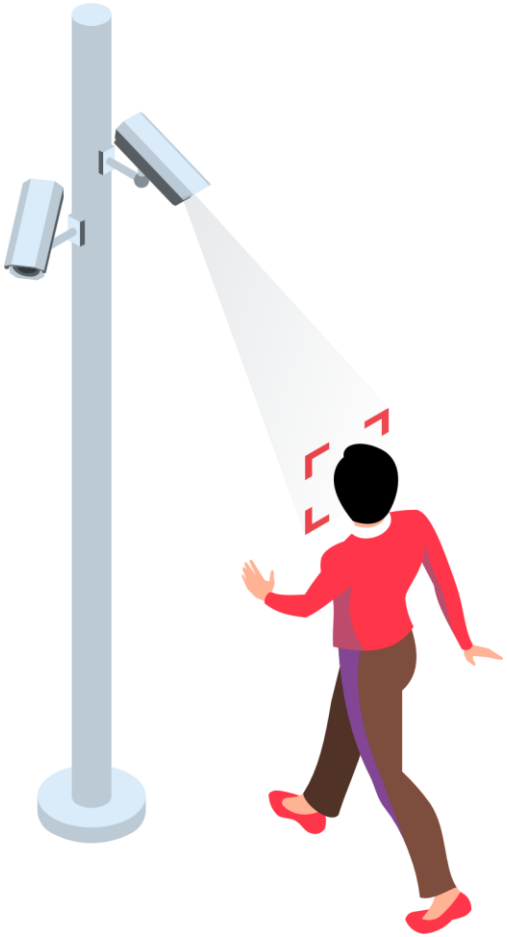
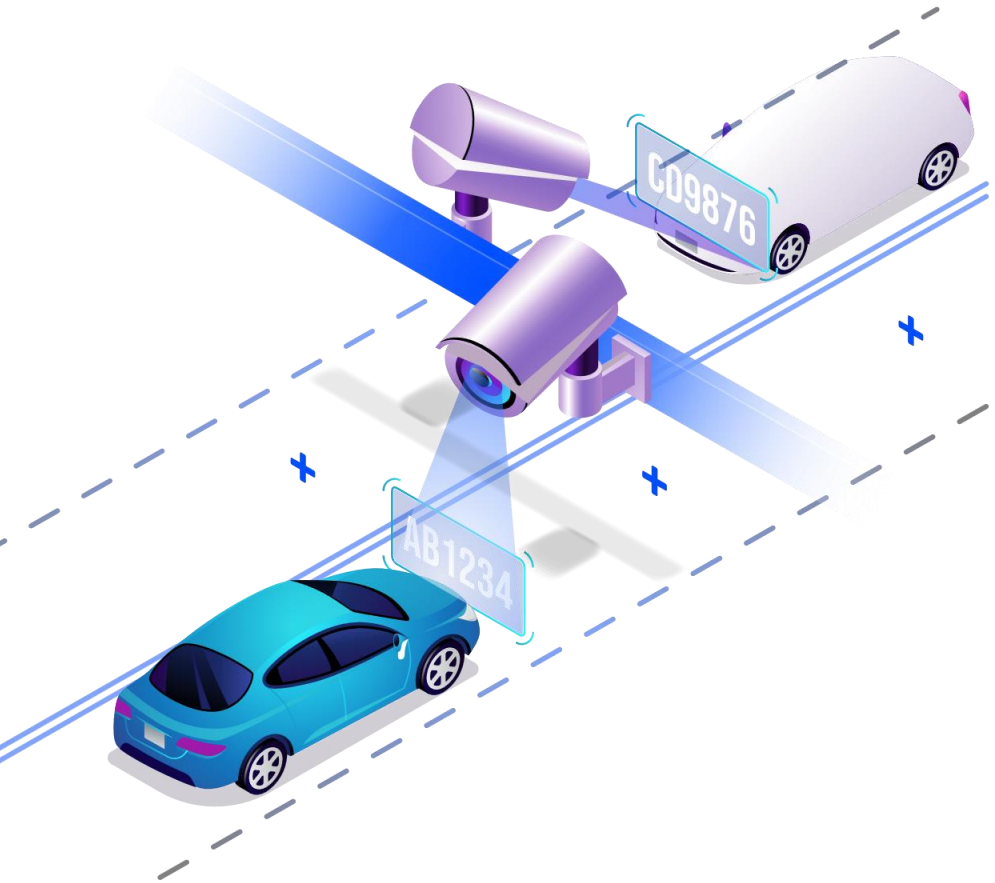


1 INTRODUCTION

Basic introduction of our system

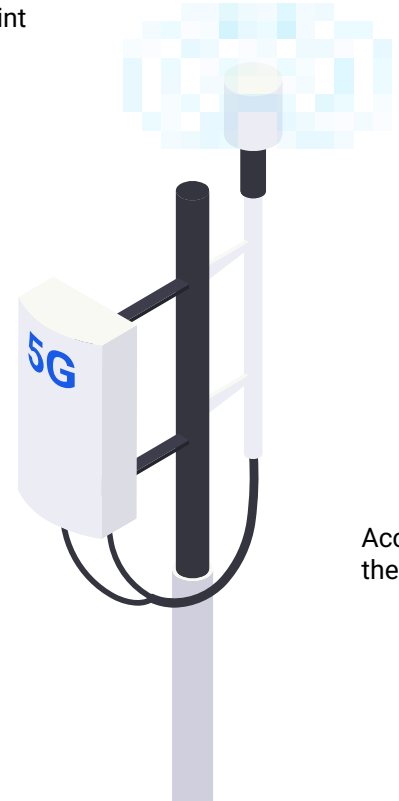


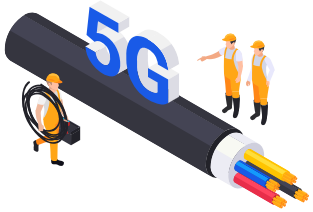
“IoT Implementation in ETLE” is the network architecture system using Internet of Things Technology to implement the ETLE technology. ETLE (Electronic Traffic Law Enforcement) is a surveillance camera that will record traffic violations committed by motorists. ETLE mobile and ETLE actually have the same function, namely to record various violations that may be committed by motorists

The Process

CCTV Images send wirelessly

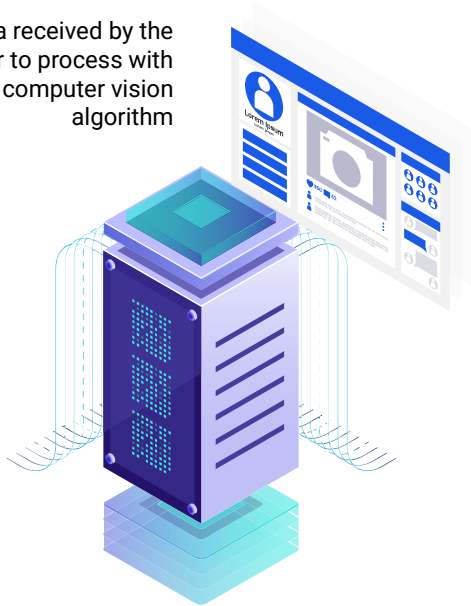
Receives by Access Point



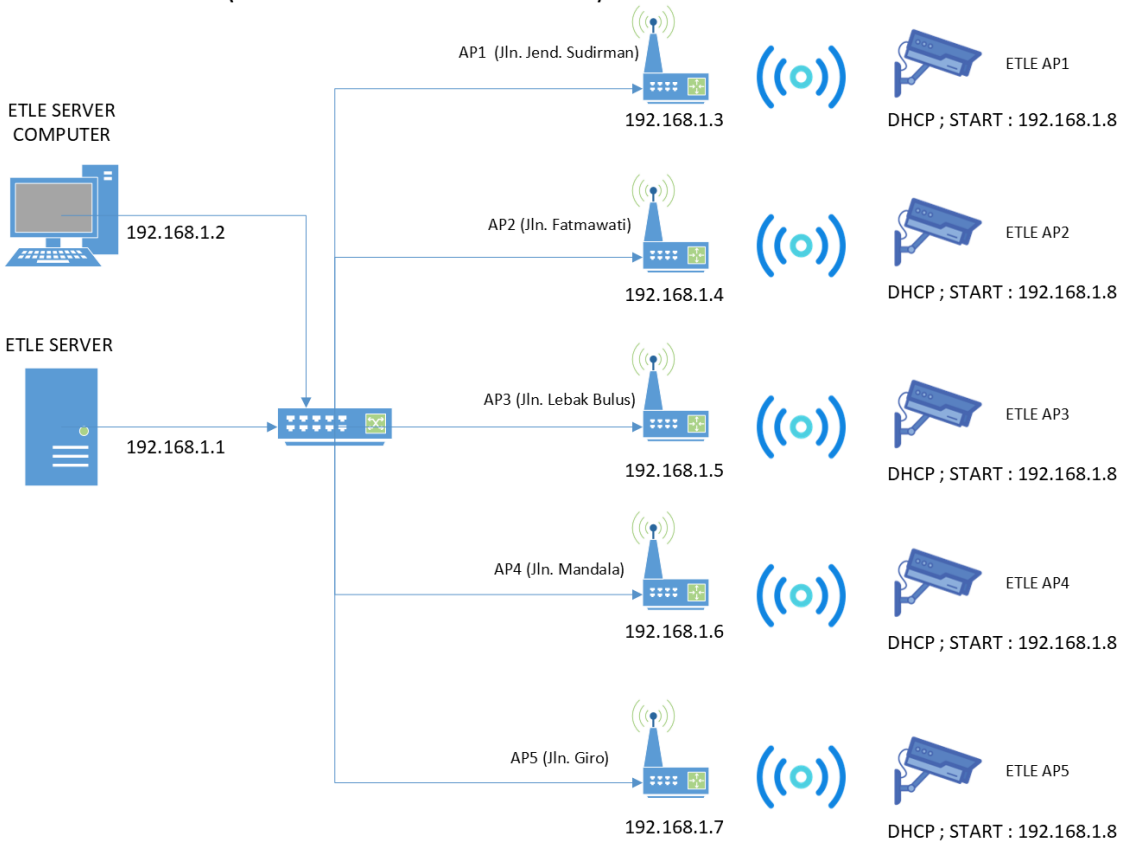


Access point forwards the data via LAN cable

The data received by the server to process with computer vision algorithm



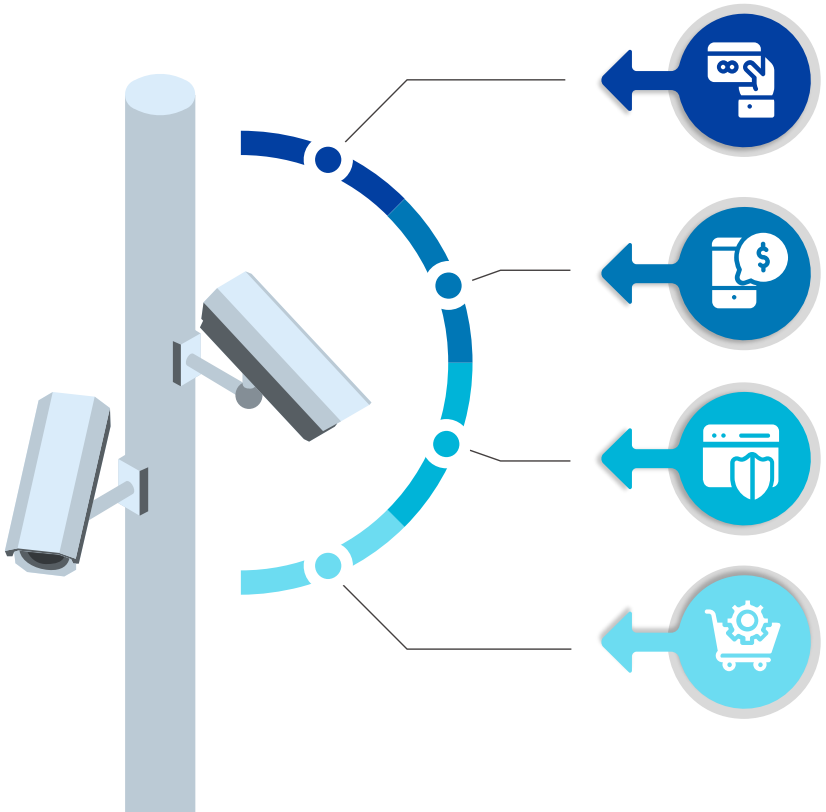
IOT IMPLEMENTATION IN ETLE (ELECTRONIC TRAFFIC LAW ENFORCEMENT)



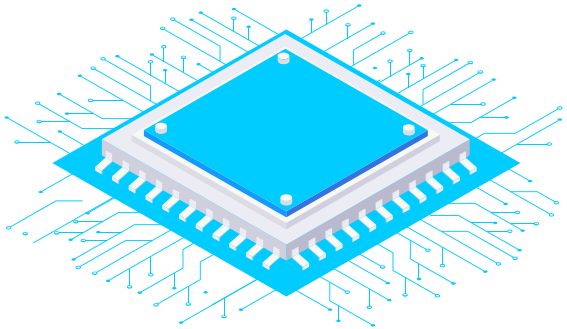
GENERAL NETWORK TOPOLOGY ARCHITECTURE (Mind Map)

Coverage : South Jakarta
Access Point Limit : up to 5 CCTV
Access Point Coverage : up to 91m
Interface : LAN, DHCP, and Internet

Benefit of ETLE Implementation



- AUTOMATIC
- ANTI ILLEGAL CHARGES
- CONNECT TO A LEGAL AGENCY AND QUICK ACTION
- ACCURATE DATA



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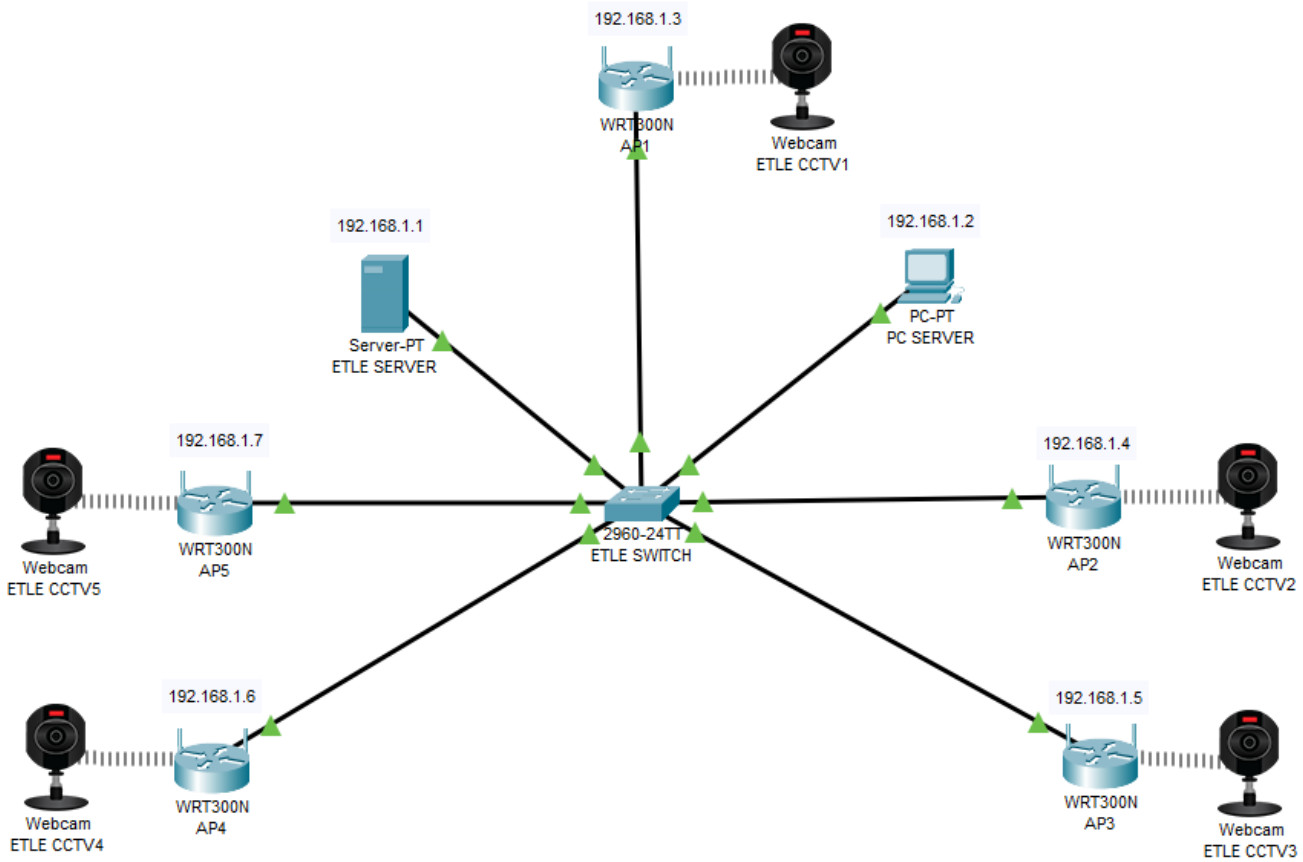
TOPOLOGY & IP

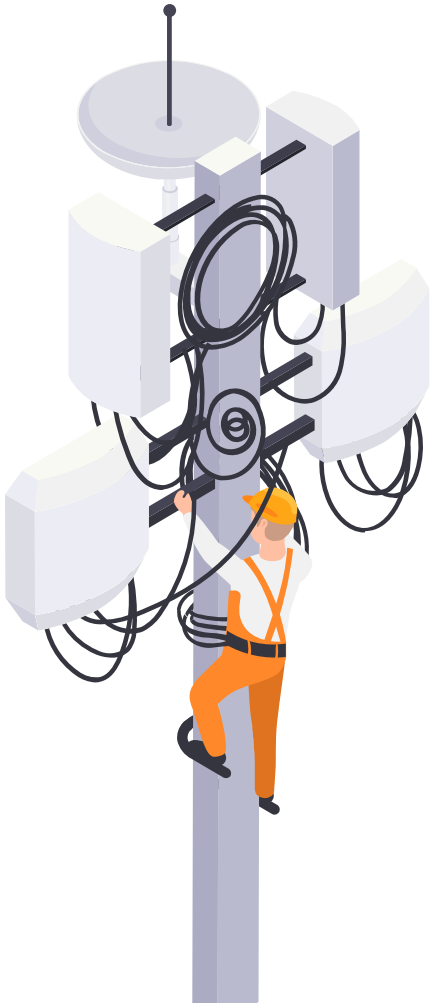
Topology implementation and IP addressing in the simulation field

Topology
(Packet Tracer simulation)



Topology IP Addressing

TOPOLOGY ADDRESSING						
NO	DEVICES	CONNECTION	IPv4 ADRESS	SUBNET MASK	REMOTE SERVER	DEFAULT GATEWAY
1	ETLE SERVER	LAN	192.168.1.1/24	255.255.255.0	N/A	192.168.1.254
2	ETLE COMPUTER	LAN	192.168.1.2/24	255.255.255.0	N/A	192.168.1.254
3	ACCESS POINT 1	LAN	192.168.1.3/24	255.255.255.0	N/A	N/A
		INTERNET	DHCP ASSIGNED	DHCP ASSIGNED	N/A	N/A
4	ACCESS POINT 2	LAN	192.168.1.4/24	255.255.255.0	N/A	N/A
		INTERNET	DHCP ASSIGNED	DHCP ASSIGNED	N/A	N/A
5	ACCESS POINT 3	LAN	192.168.1.5/24	255.255.255.0	N/A	N/A
		INTERNET	DHCP ASSIGNED	DHCP ASSIGNED	N/A	N/A
6	ACCESS POINT 4	LAN	192.168.1.6/24	255.255.255.0	N/A	N/A
		INTERNET	DHCP ASSIGNED	DHCP ASSIGNED	N/A	N/A
7	ACCESS POINT 5	LAN	192.168.1.7/24	255.255.255.0	N/A	N/A
		INTERNET	DHCP ASSIGNED	DHCP ASSIGNED	N/A	N/A
8	CCTV 1	WIRELESS	DHCP ASSIGNED	255.255.255.0	192.168.1.1	DHCP ASSIGNED
9	CCTV 2	WIRELESS	DHCP ASSIGNED	255.255.255.0	192.168.1.1	DHCP ASSIGNED
10	CCTV 3	WIRELESS	DHCP ASSIGNED	255.255.255.0	192.168.1.1	DHCP ASSIGNED
11	CCTV 4	WIRELESS	DHCP ASSIGNED	255.255.255.0	192.168.1.1	DHCP ASSIGNED
12	CCTV 5	WIRELESS	DHCP ASSIGNED	255.255.255.0	192.168.1.1	DHCP ASSIGNED
13	CCTV 6	WIRELESS	DHCP ASSIGNED	255.255.255.0	192.168.1.1	DHCP ASSIGNED
14	CCTV 7	WIRELESS	DHCP ASSIGNED	255.255.255.0	192.168.1.1	DHCP ASSIGNED
15	CCTV 8	WIRELESS	DHCP ASSIGNED	255.255.255.0	192.168.1.1	DHCP ASSIGNED
16	CCTV 9	WIRELESS	DHCP ASSIGNED	255.255.255.0	192.168.1.1	DHCP ASSIGNED
17	CCTV 10	WIRELESS	DHCP ASSIGNED	255.255.255.0	192.168.1.1	DHCP ASSIGNED
18	ADDITIONAL CCTV	WIRELESS	DHCP ASSIGNED	255.255.255.0	192.168.1.1	DHCP ASSIGNED
19	ADDITIONAL CCTV	WIRELESS	DHCP ASSIGNED	255.255.255.0	192.168.1.1	DHCP ASSIGNED
20	ADDITIONAL CCTV	WIRELESS	DHCP ASSIGNED	255.255.255.0	192.168.1.1	DHCP ASSIGNED
21	ADDITIONAL CCTV	WIRELESS	DHCP ASSIGNED	255.255.255.0	192.168.1.1	DHCP ASSIGNED
22	ADDITIONAL CCTV	WIRELESS	DHCP ASSIGNED	255.255.255.0	192.168.1.1	DHCP ASSIGNED
23	ADDITIONAL CCTV	WIRELESS	DHCP ASSIGNED	255.255.255.0	192.168.1.1	DHCP ASSIGNED
24	ADDITIONAL CCTV	WIRELESS	DHCP ASSIGNED	255.255.255.0	192.168.1.1	DHCP ASSIGNED
25	ADDITIONAL CCTV	WIRELESS	DHCP ASSIGNED	255.255.255.0	192.168.1.1	DHCP ASSIGNED



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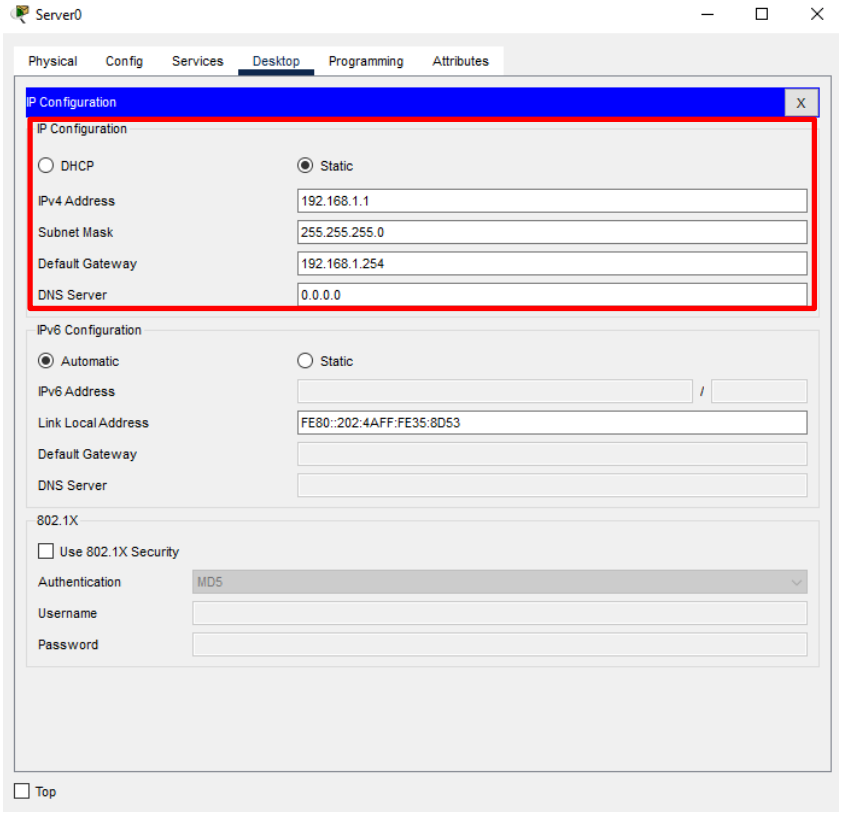
IoT CONFIGURATION

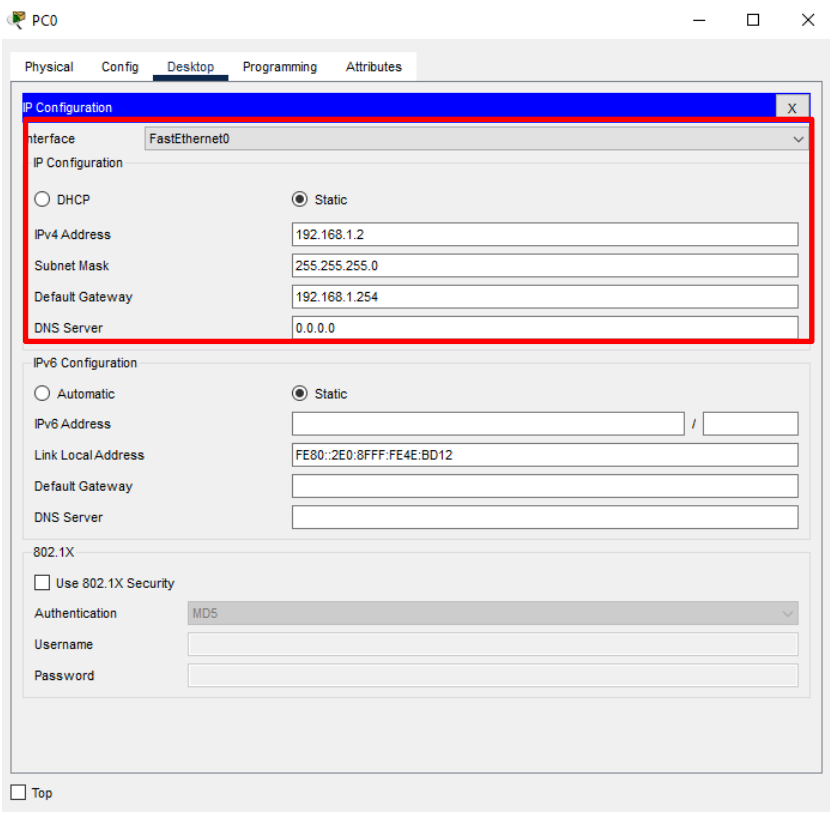
IoT Configuration setting

ETLE Server & PC IP Configuration

ETLE Server

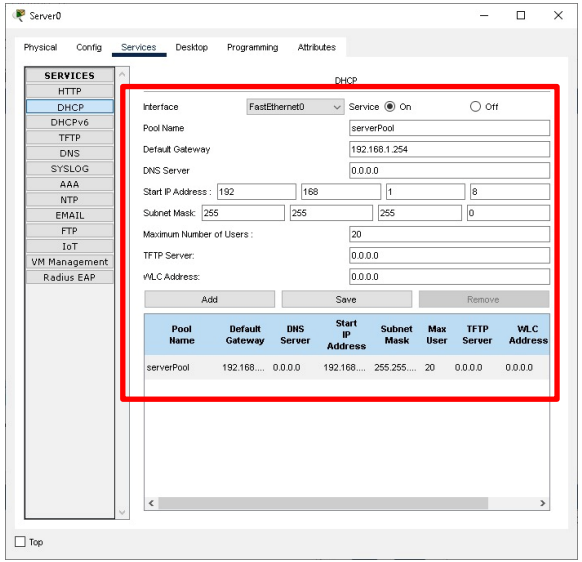


PC Server

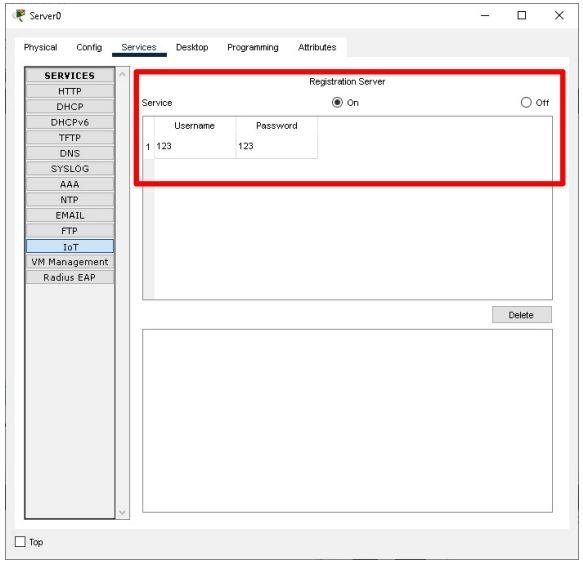


IoT Configuration

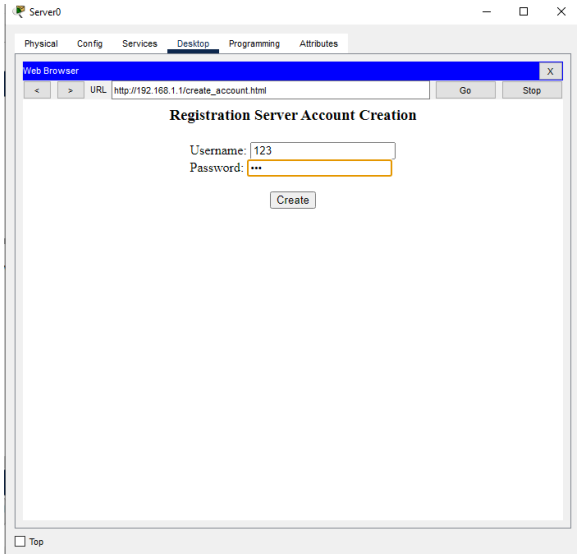
DHCP Setup



Registration Server Setup

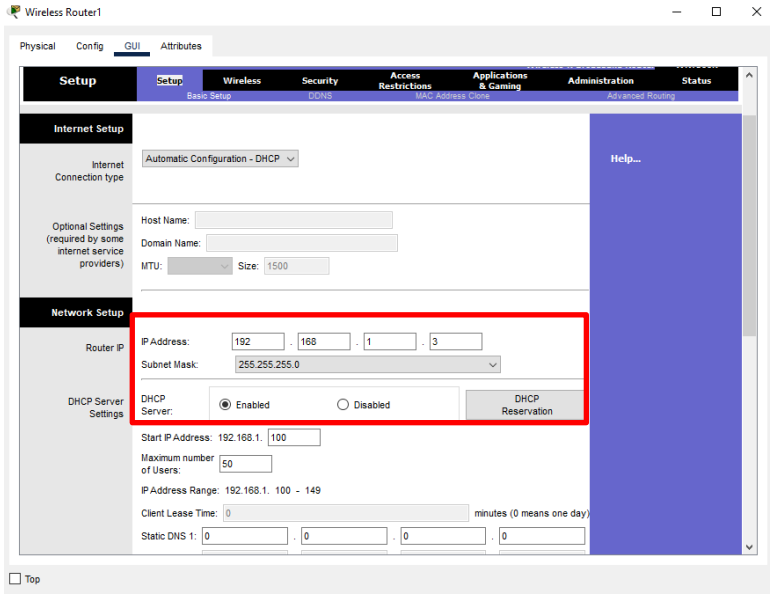


Data pool server Setup

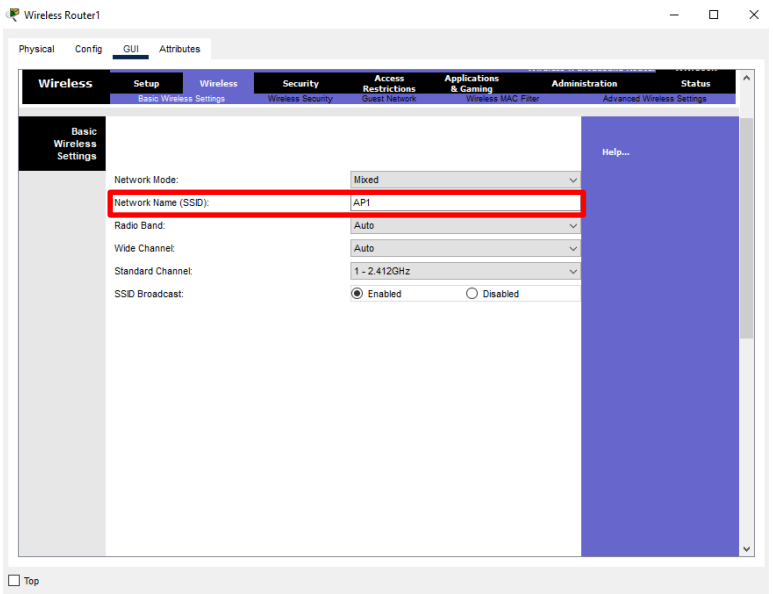


Router Access Point Configuration

Router Setup

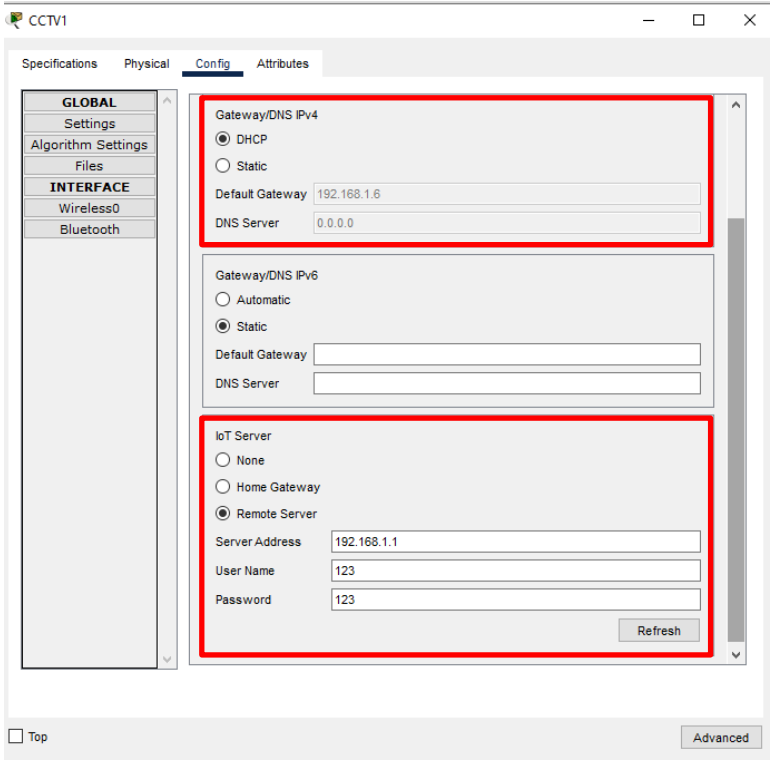


Wireless Setup

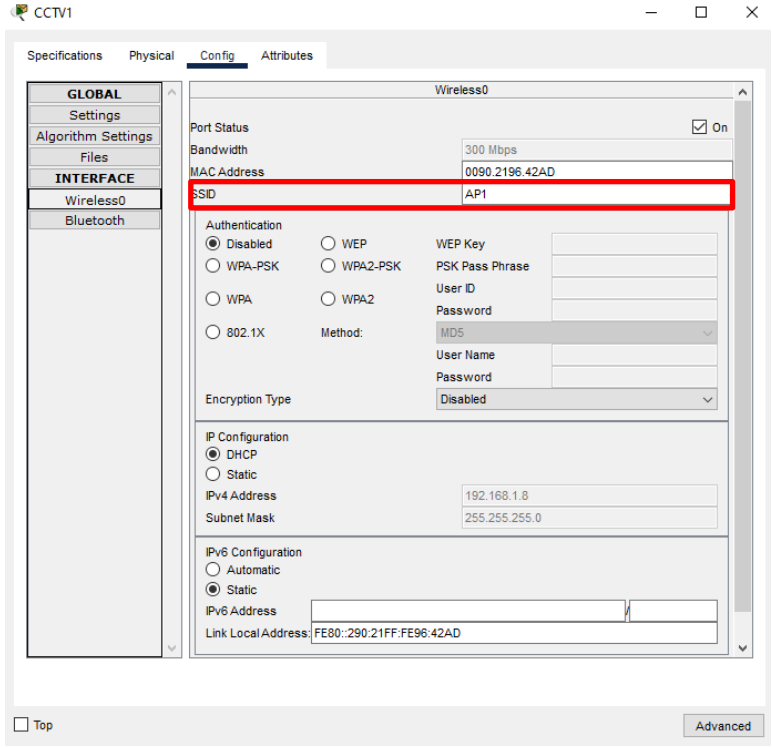


ETLE CCTV
Configuration

Remote Server setup



DHCP setup



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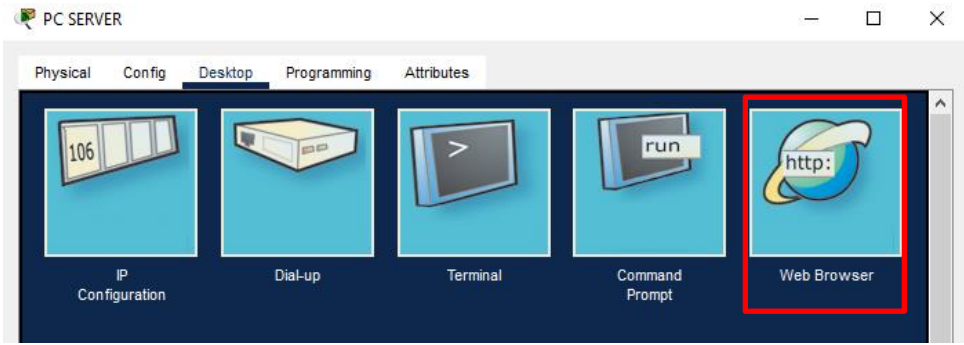
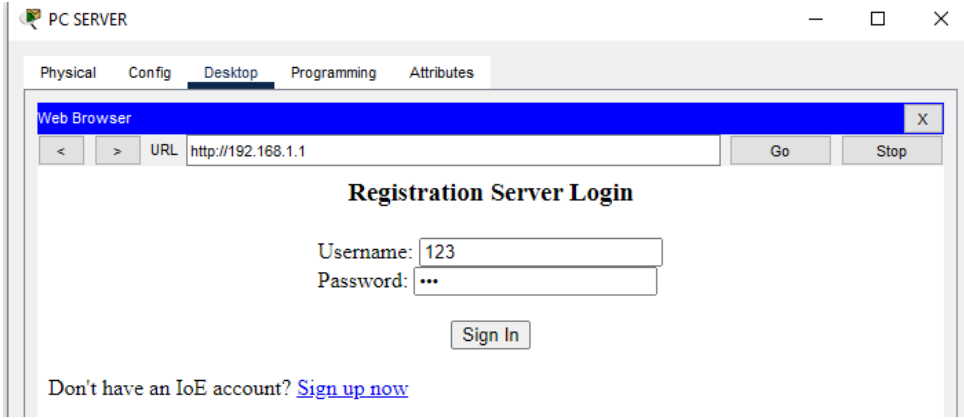
OUTPUT

The output of our system in the simulation field

Login

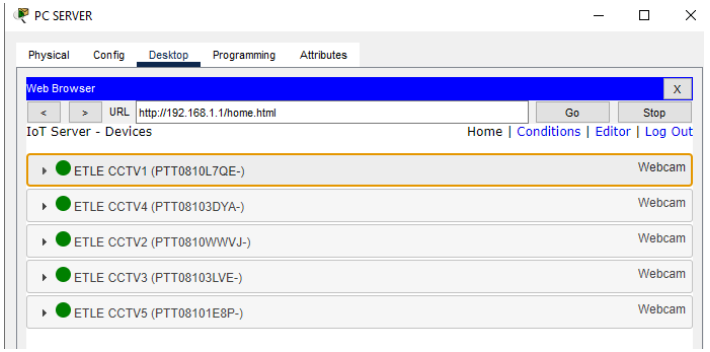
(using the website via PC Server)

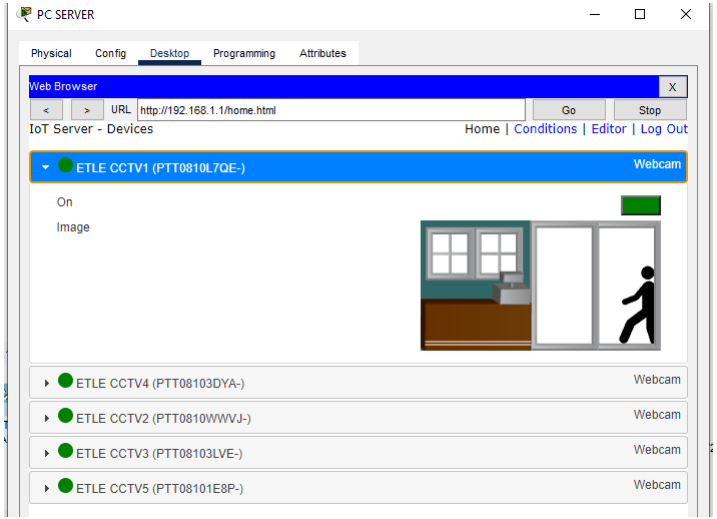


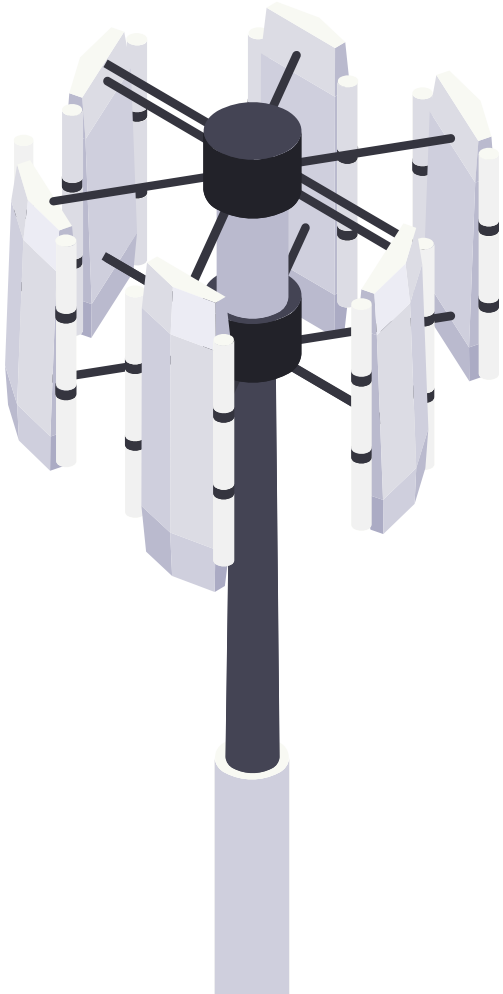


ETLE CCTV Data Interface

(using the website via PC Server)







THANKS

Feel free to ask!