

Introduction to CW-400 A1

CERIO
Amplify your Wireless Network



eXtreme Power Wave2 4X 11N/ac 2.4/5Ghz
2x2 Ceiling / Wall PoE Access Point

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File Transfers

HD Video Streaming

E-mail Sending

Web Surfing

Check E-mail



Sharing

Viewing Photos

Online Meeting

File Download

HD Video Streaming

Online Chatting

2.4G WiFi Band



5G WiFi Band



Product Overview



- Latest 11n/ac MU-MIMO Wave 2 chipset solution AC1300 Wireless Dual Band Ceiling Access Point
- Supports 802.11ac/11n/11an/11a wireless standards
- 2.4GHz Data Rate of up to 400Mbps
- 5GHz Data Rate of up to 867Mbps
- Support 2 10/100/1000Mbps Gigabit Ethernet Ports and 1 RJ45 Console Management Port
- Built-in dual band 2x2 Omni Antennas. The antenna diversity design enhances the connection reliability to improve data transmission capability
- Supports IEEE 802.3af/at Power over Ethernet that allows power and data to be supplied to the unit using CAT5 Ethernet cable.
- Supports 5 Operation Modes (CenOS 5.0)

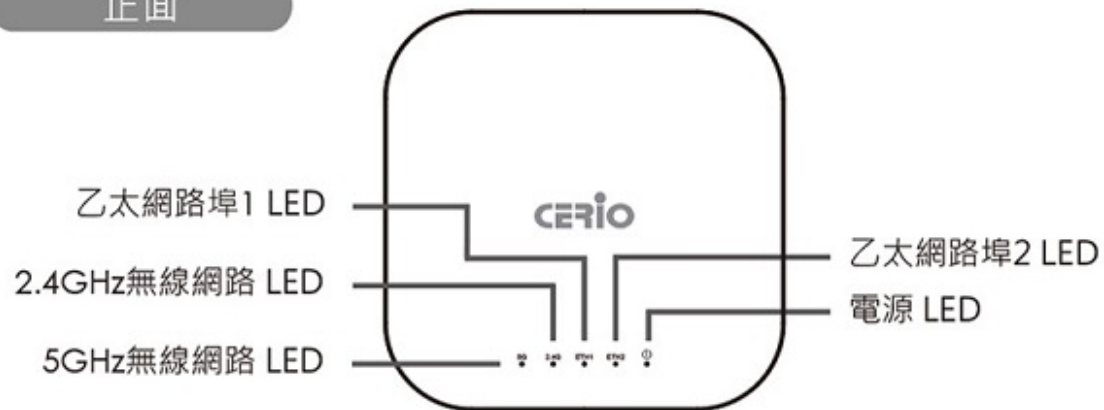
Advanced Features



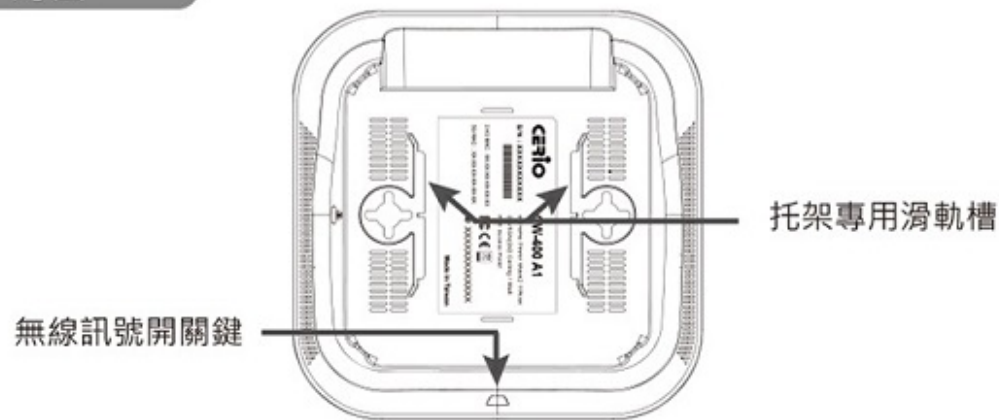
- Supports up to 200 concurrent users
 - Approximately 120-130 Clients on the 5Ghz band
 - Approximately 70-80 Clients on the 2.4GHz band
- Operation modes include: Controller-less Access Point (CAP) Mode , Access Point Mode, Client Bridge + Repeater Mode, WISP / CPE Repeater Mode, Router AP Mode
- Supports latest Band steering technology and 802.11r/k Fast Roaming Protocol
- Provide customizable login and logout Captive portal page by Web Page
- CenOS 5.0 Control Access Point Mode (CAP) supports centralized management of up to 64 AP devices
- Bundles RJ45 Function Kit, which is able to reset the device to default remotely. It can save extra re-installation cost and time
- Supports hardware RF on/off base on your needs to turn on or turn off , easy to use

Hardware Overview — CERio

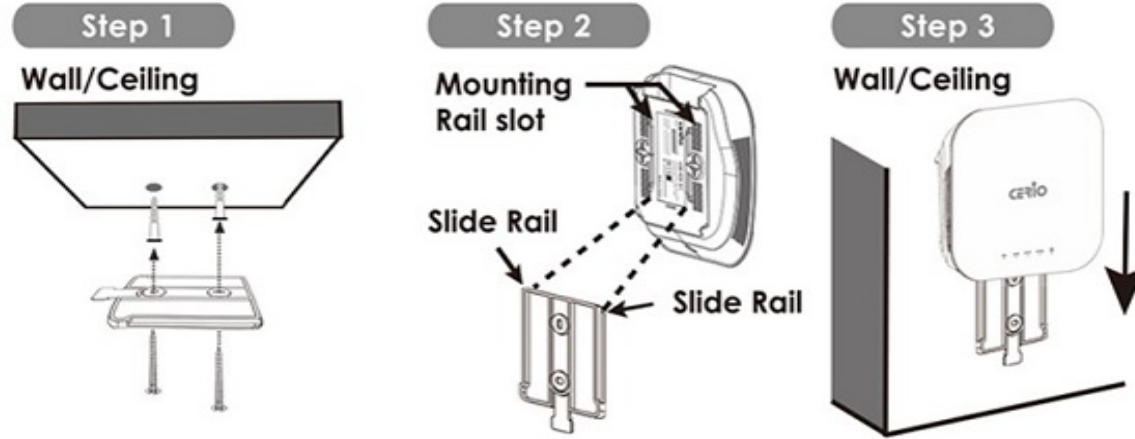
正面



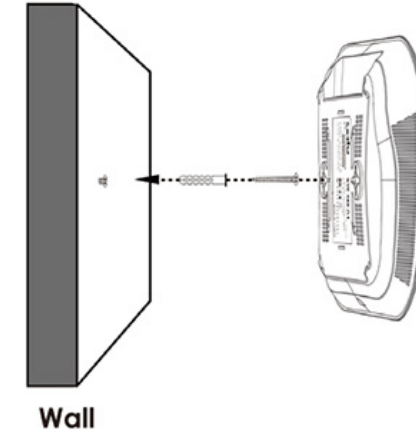
背面



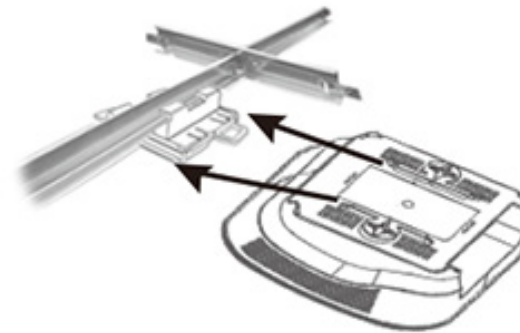
Ceiling/Wall Mounting (1)



Ceiling/Wall Mounting (2)



T-Bar Mounting Supported



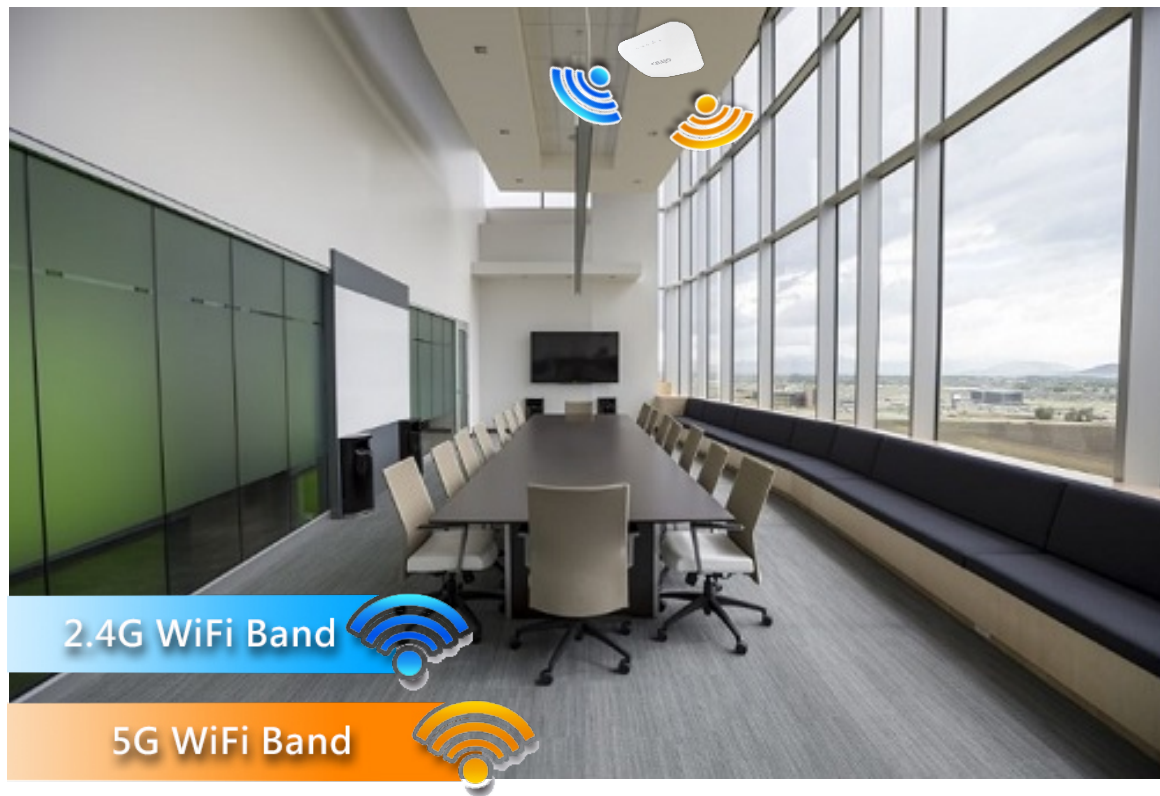
Hardware Reset Function Kit

- Except for reset button function, it also bundles RJ45 Function Kit, which is able to reset the device to default remotely. It can save extra re-installation cost and time



Interference Reduction — CERIO

CW-400 A1 's ceiling mount design **reduces line-of-sight signal interferences** and ensures deployment environments such as offices **do not have Wi-Fi dead zones**.



Seamless Integration — CERIO

CW-400 A1's elegant design makes it perfect for a wide range of deployments. The device also looks similar to a smoke detector, allowing it to reduce visibility and blend into its environment.



Powerful Performance — CERIO



Latest 11n/ac MU-MIMO Wave2 chipset solution

2.4Ghz & 5Ghz bands provides enterprise grade CPU performance, allowing the device to handle up to 200 concurrent clients

Approximately 120-130 Clients on the 5Ghz band (App. 60%)

Approximately 70-80 Clients on the 2.4GHz band (App. 40%)

Ideal Deployment



Hotel Lobbies



Universities



Airports



Hospitals

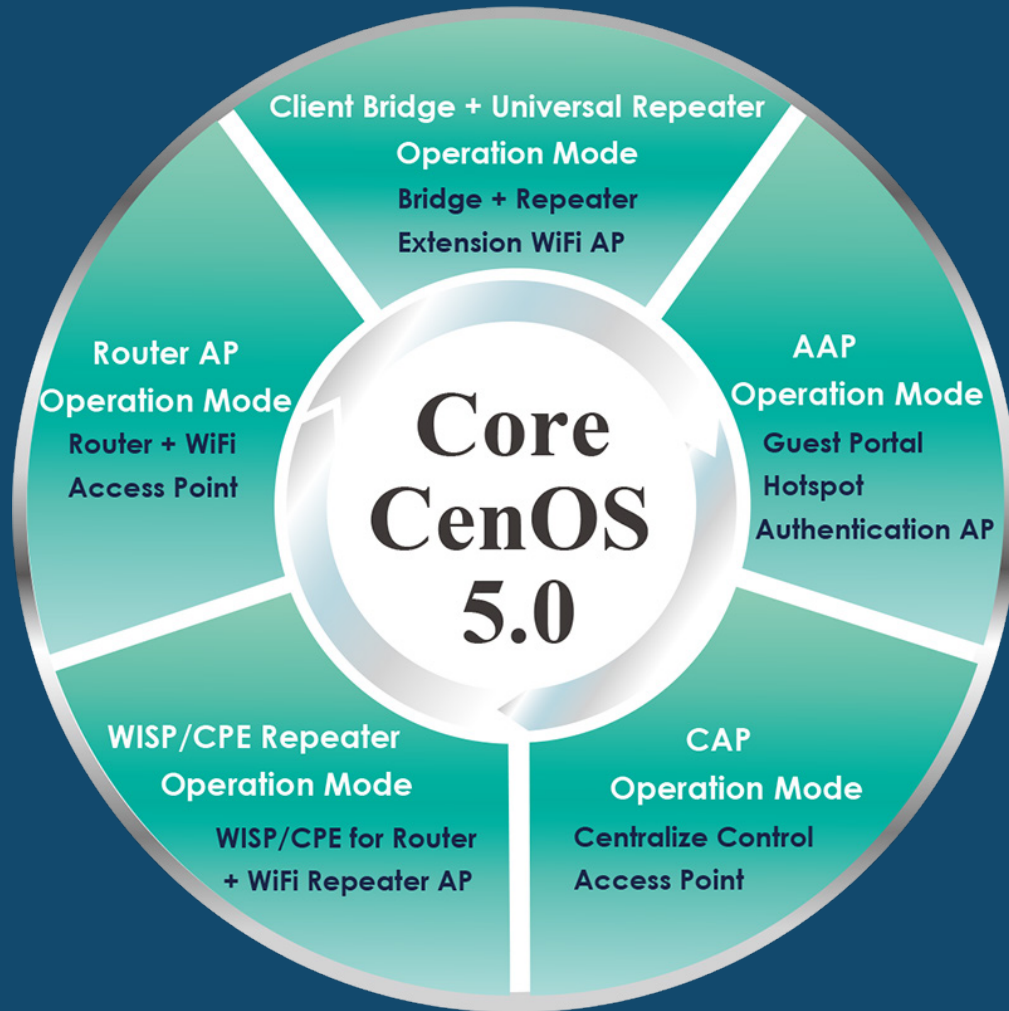
→ **EMERGENCY**

→ Emergency Patient Parking

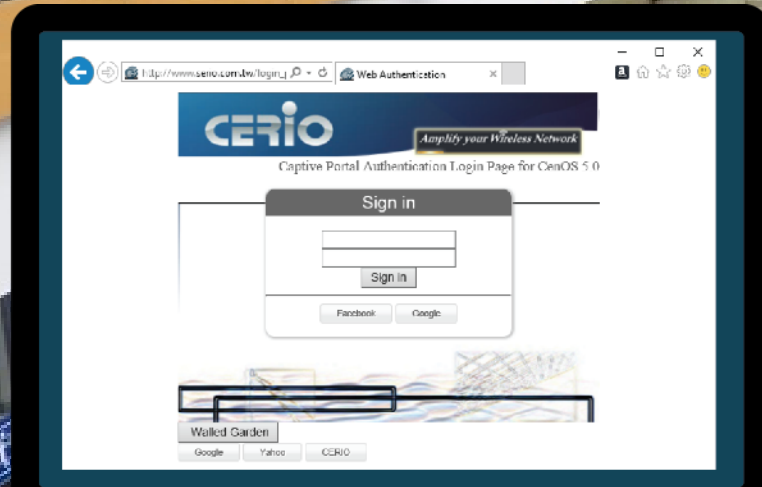
↑ Main Entrance

→ Physician Parking

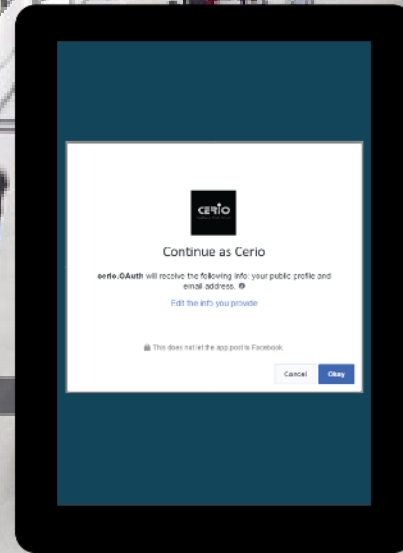
Software Overview



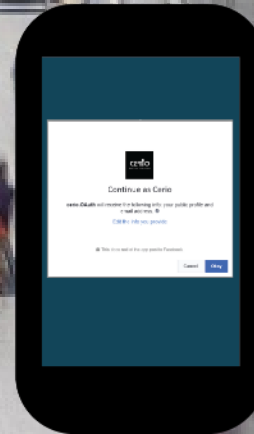
Captive Portal Authentication conveniently allows wireless clients to access the network through a customized web login portal.



Local Account Login



Facebook Login



Administrators can deploy a customized Captive Portal with the following login methods

1. Guest Login
2. Local Account Login
3. OAuth2.0 Login

(Facebook/Google/etc.)

Integrated AP Management

Centralized AP Management

AP Management

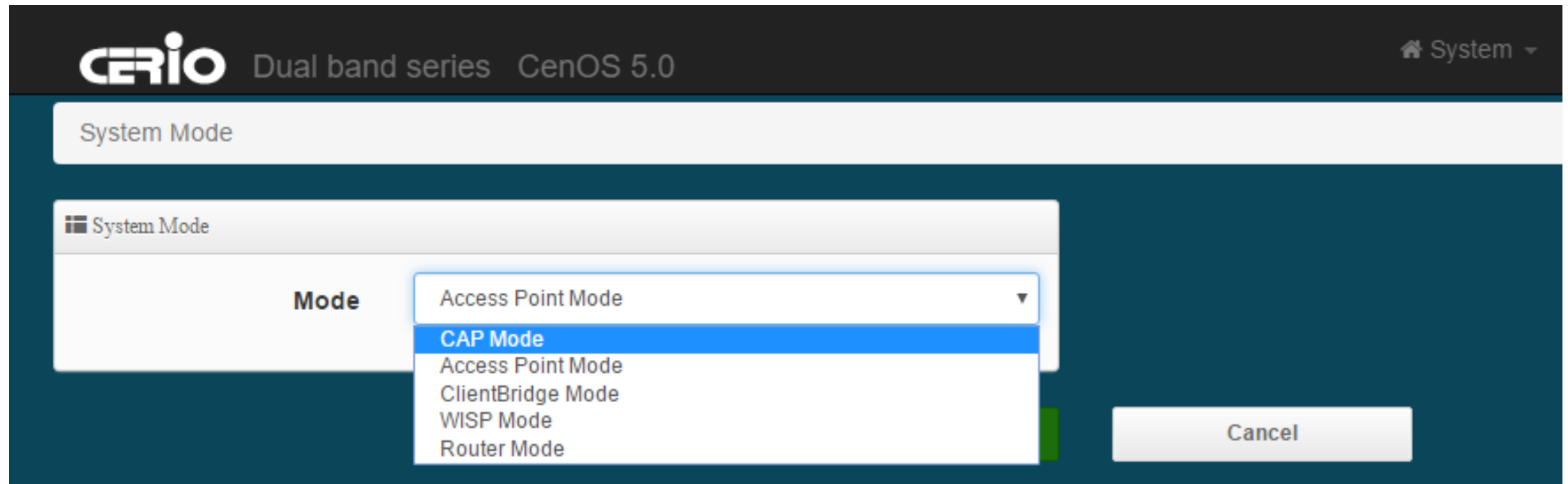
AP Controller



Fast and Convenient
Client Login

Captive Portal Authentication

CW-400 A1 supports five different Operation Modes: Access Point Mode, Controller-less Access Point (CAP) Mode, Client Bridge + Repeater Mode, and WISP / CPE Repeater Mode, Router AP Mode



Control Access Point



Control Access Point (CAP) Mode's converts the device into a centralized AP management controller. When CW-400 A1 is in CAP Mode, it can centrally manage up to **64 AP devices**.

The screenshot displays the CERIO web management interface. At the top, there is a navigation bar with the CERIO logo on the left and menu items for 'System', 'AP Control', 'Utility', and 'Status'. The 'AP Control' menu is currently expanded, showing options: 'Scan Device', 'Batch Setup', 'AP Setup', 'Group Setup', 'Map Setup', 'Authentication Profile', and 'Status'. The main content area is divided into two panels. The left panel, titled 'Overview', shows system configuration details: 'Mode' is set to 'CAP Mode', 'System Name' is 'CW-400 A1', 'System Time' is '2015/01/01 08:02:42', and 'System Uptime' is '01:44'. The right panel, titled 'Information', features a 'Memory' gauge showing 76% usage, with a scale from 0 to 100%.

Scan AP Device

Filter Device

VLAN#

Default Password

Sort

Update IP Address & Netmask

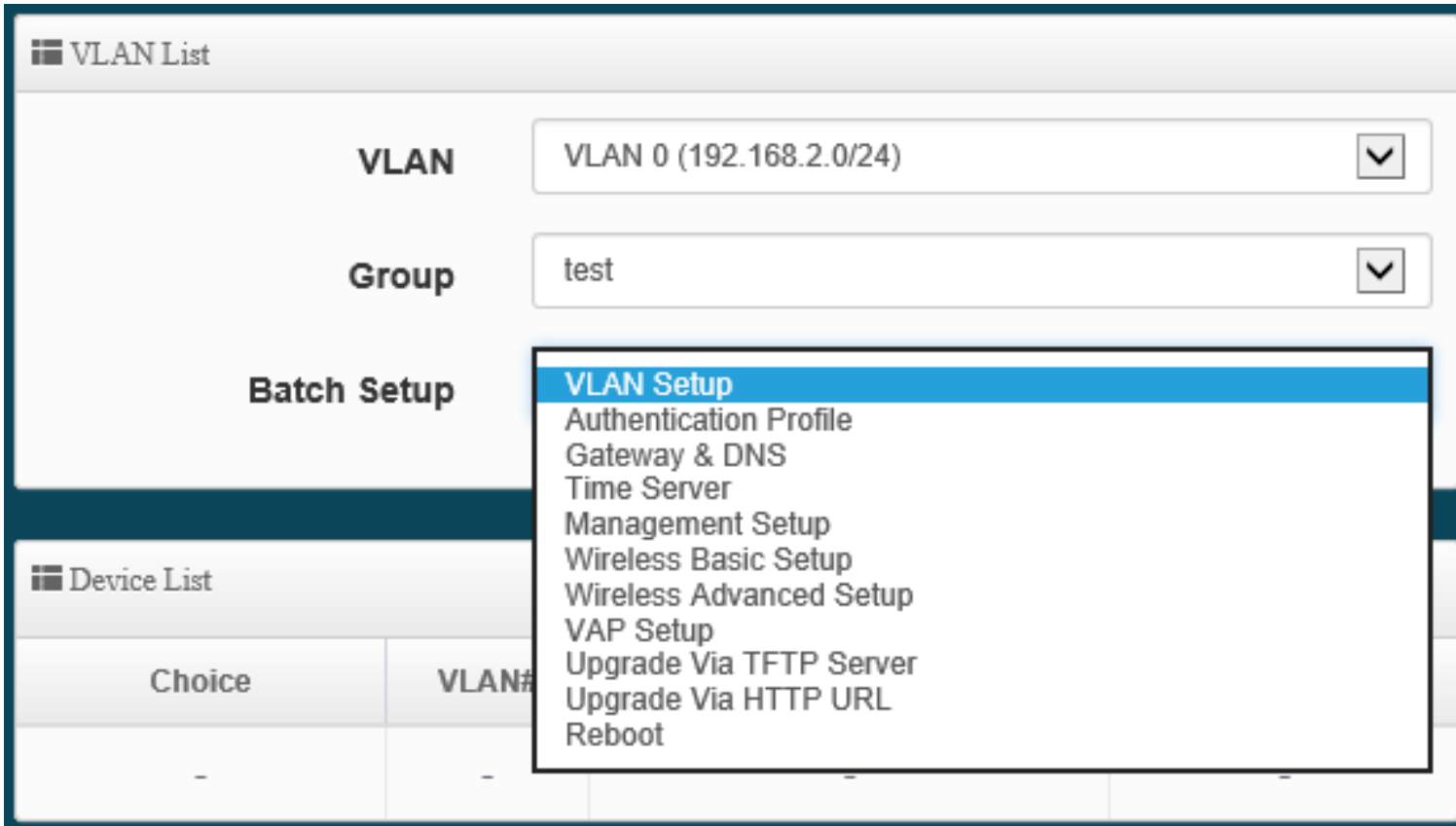
Control Port

VLAN TAG

IP Address

Netmask

CAP Mode allows administrators to scan for AP devices within their virtual LAN and import them into the management database. Once imported, administrators can make quick changes such as changing IP addresses for organization and easy management



The screenshot shows the 'Batch Setup' interface in CERIO. It features a 'VLAN List' section with two dropdown menus: 'VLAN' set to 'VLAN 0 (192.168.2.0/24)' and 'Group' set to 'test'. Below these is a 'Batch Setup' dropdown menu that is open, showing a list of configuration options: 'VLAN Setup' (highlighted), 'Authentication Profile', 'Gateway & DNS', 'Time Server', 'Management Setup', 'Wireless Basic Setup', 'Wireless Advanced Setup', 'VAP Setup', 'Upgrade Via TFTP Server', 'Upgrade Via HTTP URL', and 'Reboot'. At the bottom, a 'Device List' table is partially visible with columns for 'Choice' and 'VLAN#', showing a single row with dashes.

Choice	VLAN#
-	-

CAP Mode's control function supports centralized configuration of managed APs. This allows administrators to make convenient batch changes to the network of AP devices from one centralized location. This main function of CAP mode can save time and cost by reducing servicing and installation time.

VLAN Setup

Apply

VLAN

VLAN Mode Enable Disable

Access Point 0 Enable Disable

Access Point 1 Enable Disable

802.1d Spanning Tree Enable Disable

Control Port Enable Disable

IAPP

IP Setup

Apply Enable Disable

IP Mode Enable Disable

IP Address

Netmask

ETH0 VLAN Tag Setup

ETH0 Enable Disable

VLAN TAG

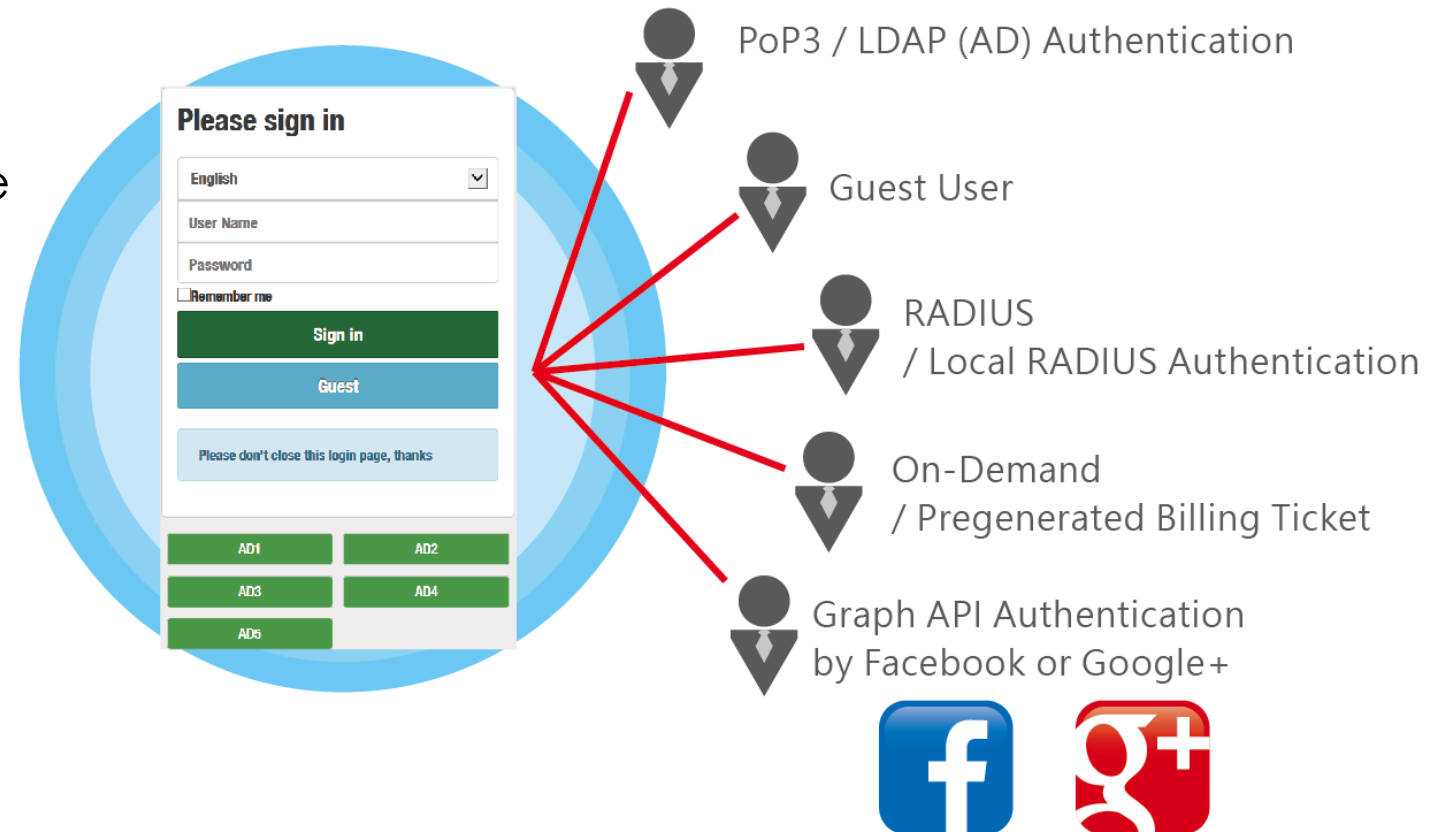
Administrators can enable VLAN Mode, Spanning tree, Control Port capabilities, IAPP Roaming, change IP settings and setup VLAN tag for batches of access points. These changes can be implemented differently for each VLAN, allowing for both centralized and organized control.

CAP Mode also supports Map Setup function for organizing your AP network. Administrators can create maps by uploading floor plan URLs and dragging APs to the correct location. Once complete, administrators can monitor AP statuses such as uptime, data rates, and connected clients

Map List				Create New Map
#	Name	Description	Action	
1	1F_plan	Location Map for man...	View	▼



CenOS 5.0 supports Authentication Access Point Mode for versatile AP deployment. Administrators can choose from many authentication options built-in Facebook and Google authentication of Third-party OAuth2.0. to best suit their network needs. This enables convenient access to the wireless network for public clients, as well as improved management and organization for network administrators



CenOS 5.0 supports multiple methods of authentication for user management, security and convenience.

OAuth2.0 : Allows devices to use third-party credentials such as Facebook and Google+ for user authentication. This provides login convenience for public clients and also allows administrators to collect data through Facebook / Google analytics.

OAuth 2.0 Provider List Create New Provider			
#	Active	Provider	Action
1	On	Google	Edit ▼
2	On	Facebook	Edit ▼



Guest Login : Provides limited Wifi connection to clients to an open network. Limitations can be put in place to manage client limits, connection time, and control bandwidth

The screenshot shows a configuration window titled "Guest". It contains several settings:

- Service**: Enable, Disable
- Login Type**: One Time, Multiple Time
- Count Limit**:
- Login Time**: Minutes
- QoS**: Enable, Disable
- Upload**: Kbps
- Download**: Kbps

Local User: Provides fixed authentication user accounts for controlled client login and data management. Administrators can track Local Account usage, connection time, etc. CenOS 5.0 supports up to 10 Local User accounts

The screenshot shows a table titled "Local User List" with the following data:

#	Name	Action
1	Test Account 1	Delete
2	Test Account 2	Delete

Customized Login Page — CERIO

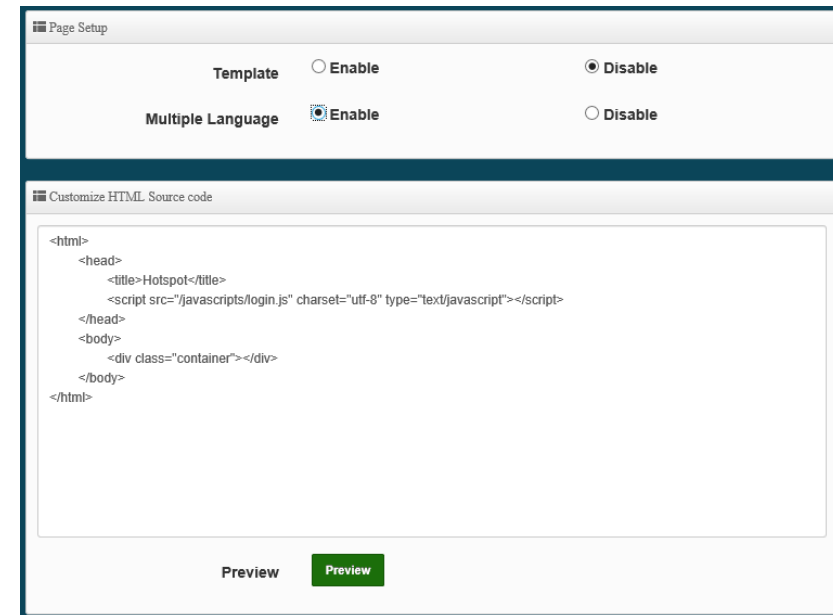
Administrators can create a customized Login Page which can become a platform for:

(1.) Promotions **(2.)** Brand Exposure **(3.)** Advertisements **(4.)** Platform for providing Information

This customized Captive Portal supports login through **1.** Guest Users **2.** Local Accounts
3. Facebook, Google+, etc using OAuth2.0.




Customized Login Page



Customize through HTML Code

Bandwidth Control of connected clients allows administrators to control individual user upload and download speeds, as well as set a maximum limit on the total amount of bandwidth that can be used at a single time.

 Bandwidth Control

Peer Users	<input checked="" type="radio"/> Enable	<input type="radio"/> Disable
Upload	<input type="text" value="512"/>	Kbps
Download	<input type="text" value="512"/>	Kbps
Total	<input checked="" type="radio"/> Enable	<input type="radio"/> Disable
Upload	<input type="text" value="1024"/>	Kbps
Download	<input type="text" value="1024"/>	Kbps

Modes Walled Garden function allows administrators to create a browsing environment that controls user access and accessible information. This function is ideal for directing users to specific parts of the Web such as;

1. Paid Content
2. Self-Promotions
3. Free access to specific websites
4. Advertisement web pages

Walled Garden

Display Name (4 -32 chars)

IP Address/Domain

Full URL

Enabled Walled Garden Websites



Supports integrated 802.1x RADIUS Server authentication for small to medium network environments. This supports a maximum of 50 built-in RADIUS Users.

☰ RADIUS User

User Name

Password Add

☰ Export/Import Users

Export User File Export

Import From PC Import

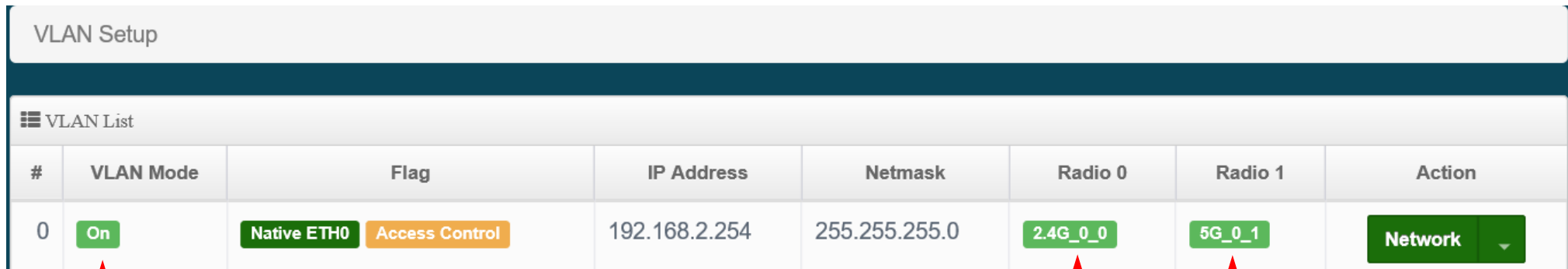
☰ RADIUS List

#	Name	Action	#	Name	Action
1	test1	Delete	2	test2	Delete

Increased Security- Individual user sessions are encrypted uniquely, which prevents other users from acquiring private information

Cost Efficient – The built-in RADIUS server design removes the need to purchase additional equipment such as external servers.

CW-400 A1's Dual Band radio design supports a total of 16 Virtual LANs (VLAN) and 32 SSIDs. Each VLAN supports two SSIDs, one on the 2.4GHz frequency band and one on the 5GHz frequency band.

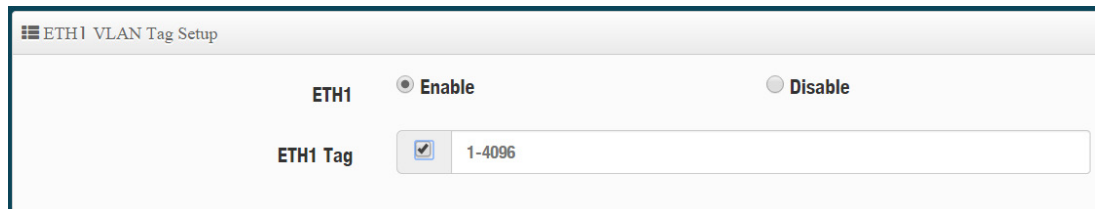


The screenshot shows the 'VLAN Setup' page with a 'VLAN List' table. The table has columns for #, VLAN Mode, Flag, IP Address, Netmask, Radio 0, Radio 1, and Action. The first row shows VLAN #0 with 'On' mode, 'Native ETH0' and 'Access Control' flags, IP 192.168.2.254, Netmask 255.255.255.0, and SSIDs '2.4G_0_0' and '5G_0_1'. A 'Network' button is in the Action column.

#	VLAN Mode	Flag	IP Address	Netmask	Radio 0	Radio 1	Action
0	On	Native ETH0 Access Control	192.168.2.254	255.255.255.0	2.4G_0_0	5G_0_1	Network

Supports 16 VLANs (#0 to 15)

Each VLAN supports 2 SSIDs, one for 2.4G and one for 5G



The screenshot shows the 'ETH1 VLAN Tag Setup' page. It has a radio button for 'Enable' (selected) and 'Disable'. Below it, there is a checkbox for 'ETH1 Tag' which is checked, and a text input field containing '1-4096'.

CW-400 A1 supports up to **4096** Tags. This is a crucial feature that ensures successful directing of packet traffic for VLANs that span across multiple switches.

The image shows two screenshots of a web interface for WDS configuration. The top screenshot is titled 'WDS Setup' and contains the following elements:

- WDS Setup**: Radio buttons for **Enable** (selected) and **Disable**.
- Authentication**: A dropdown menu currently set to **Disable**.
- PassPhrase**: An empty text input field.

The bottom screenshot is titled 'WDS Client Setup' and displays a table for configuring WDS links on two radios:

Radio 0(2.4G)		Radio 1(5G)	
Enable	MAC Address	Enable	MAC Address
<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>
<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>
<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>
<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>
<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>
<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>
<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>
<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>

CW-400 A1 with **CenOS 5.0** supports **WDS Setup** when operating in **Access Point Mode**

CW-400 A1's Access Point mode supports **8 WDS links per radio** for a total of **16 links** per device

(8x WDS on the 2.4GHz frequency band)

(8x WDS on the 5GHz frequency band)

802.11r/802.11k Fast Roaming

Fast Roaming **Enable** **Disable**

Fast Roaming Settings

Mobility Domain	<input type="text" value="a1b2"/>
R0 Key Lifetime	<input type="text" value="10000"/>
Reassoc deadline	<input type="text" value="1000"/>
R0/NAS Identifier	<input type="text" value="ap.example.com"/>
R1 Identifier	<input type="text" value="000102030405"/>
R1 Push	<input type="radio"/> Enable <input checked="" type="radio"/> Disable

802.11k- Smartly provides roaming client with information regarding nearby APs and their channels, which prepares the client for easier roaming.



802.11r- Stores encryption keys on all the APs within the network. This simplifies the authentication process when clients roam to new APs, greatly reducing CPU loading and latency.

- System
- Mode Setup
- VLAN Setup
- Authentication
- Radius Server
- Radius Account Setup
- Management
- Time Server
- SNMP
- Time Policy



Time Policy Setup

Policy List

#	Comment	Mode	Edit
1	Policy 1	On Schedule	Edit
2	Policy 2	On Schedule	Edit

Time Policy Rules

Comment

Mode On Schedule Out Of Schedule

Policy List

[Create New Policy](#)

#	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Time	Action
-	-	-	-	-	-	-	-	-	-

The administrator can set the Time Policy function to manage and control the Internet enable time. It is very suitable for the school to control and management students use internet time.

LED Control

LED OFF Enable Disable

LED Control- User can select LED disable or enable by their preferences or environmental needs

Auto Reboot

Type:

- Disable
- Daily
- Week
- Month

Auto Reboot- Setup device auto reboot schedule to reduce CPU overloading and device crashes.

Type:

Hour:

Minute:

By Day

Type:

Weekly: Sun Mon Tue Wed Thu Fri Sat

Hour:

Minute:

By Weekly

Type:

Monthly

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
01	02	03	04	05	06	07	08	09	10
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11	12	13	14	15	16	17	18	19	20
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21	22	23	24	25	26	27	28	29	30
<input type="checkbox"/>									
31									

Hour:

Minute:

By Monthly

What we do



Innovation & Design

Our R&D team continues to incorporate the newest wireless protocols and features to make our products perfect for enterprise deployment.



Wireless Solutions

Our Field Application Engineers and Specialists have unparalleled experience providing the perfect solution for any wireless projects (e.g. Hotels, Long Distance PTP Backhaul, Universities)



Software Development & Design

Our software provides a high featured and easily operated User Interface and also supports centralized AP Management for convenient device deployment.



Outstanding Customer Service

CERIO's customer service staff are experts on our products and possess clear and patient communication skills.

Contact Information

CERIO

CERIO Corporation

4F.-3., No.192, Sec. 2, Zhongxing Rd., Xindian Dist.,
New Taipei City 231, Taiwan (R.O.C.)

Telephone : +(886) 02-8911-6160

Fax : +(886) 02-8911-6180



www.cerio.com.tw



issales@cerio.com.tw



www.facebook.com/center.ww



www.linkedin.com/company/cerio-corporation



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