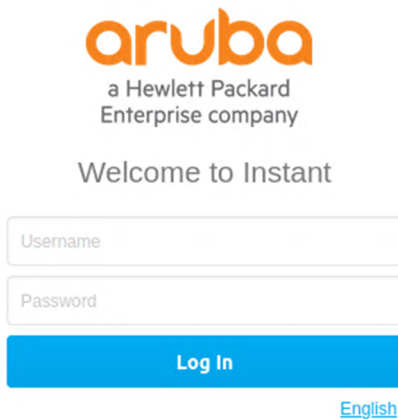


4.5 Connecting using Web-based GUI

You can connect to the web-based GUI by entering the Aruba AP's IP address in a web browser, and entering the Username and Password when prompted as shown below in Figure 6. If the IP strapping pins have not been set, you can use the **show ip interface** CLI command to display the IP address that was assigned by your DHCP server

Note: The following subsections refer to the [Aruba] IAP, or AP which shall be used interchangeably with the CWAP. The sections are summarized from Aruba Instant documentation and training materials. For additional information refer to the Aruba Instant User Guide.



The image shows the Aruba Instant GUI login page. At the top is the Aruba logo with the text 'a Hewlett Packard Enterprise company'. Below this is the text 'Welcome to Instant'. There are two input fields: 'Username' and 'Password'. Below the password field is a blue 'Log In' button. To the right of the button is a link for 'English'.

Figure 6: Aruba Instant GUI Login Prompt

You may see a Certificate Error message. This is because the certificates issued to the AP do not match the IP address used to connect to the GUI. It is recommended that you add a certificate issued by your network, to ensure secure administrative communication.

The main GUI page is broken up into the following sections. These sections are identified below Figure 7.
Note: The left-most panel on the GUI provides access to Dashboard, Configuration, Maintenance, and Support areas.

1. **Overview**—This section displays the number of configured networks, access points, and clients.
2. **Info**—This section displays information about the access point name, country code, virtual controller IP address, management, conductor Instant AP IP address, IPv6 address, uplink type, and uplink status.
3. **Clients**—The Clients graph displays the number of clients that were associated with the virtual controller in the last 15 minutes.
4. **Throughput**—The Throughput Graph shows the throughput of the selected client for the last 15 minutes.
 - a. **Out** – Throughput for the outgoing traffic is displayed in blue.
 - b. **In** - Throughput for the incoming traffic is displayed in orange. To see an enlarged view, click the graph. To see the exact throughput at a particular time, move the cursor over the graph line.
5. **RF Dashboard**—This section displays the Instant APs that exceed the utilization, noise, or error threshold. It also shows the clients with low speed or signal strength in the network and the RF information for the Instant AP to which the client is connected.

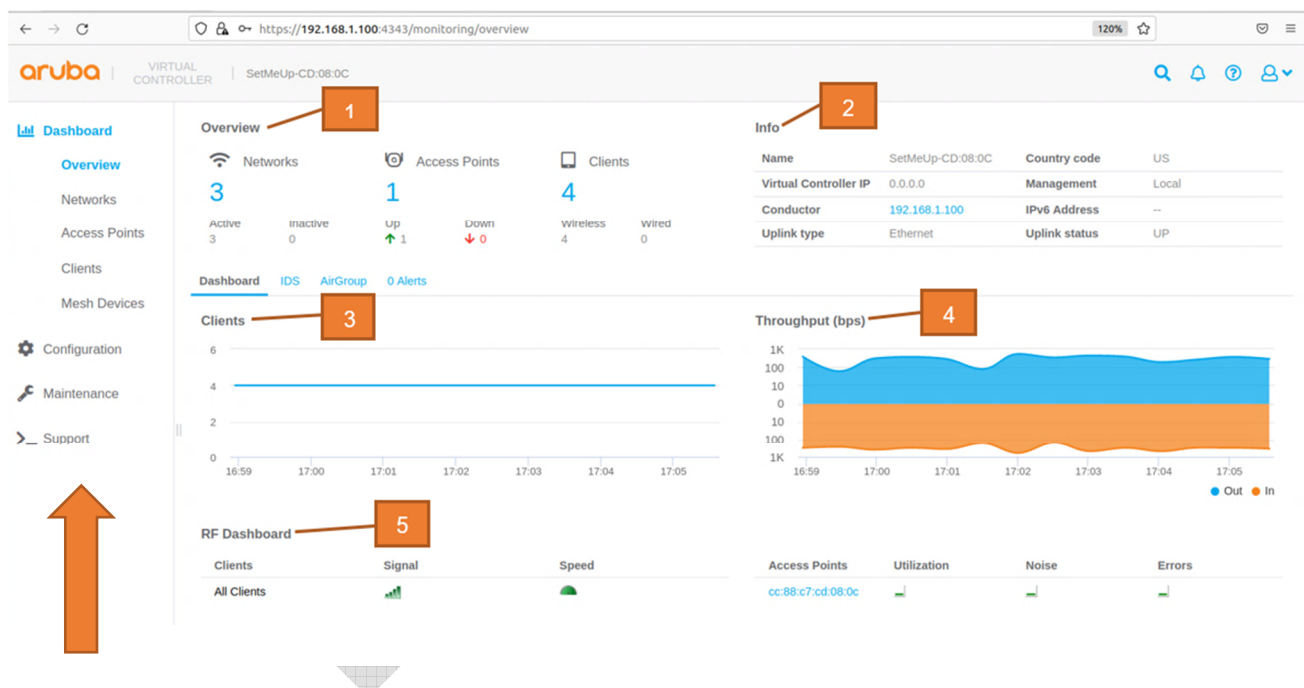
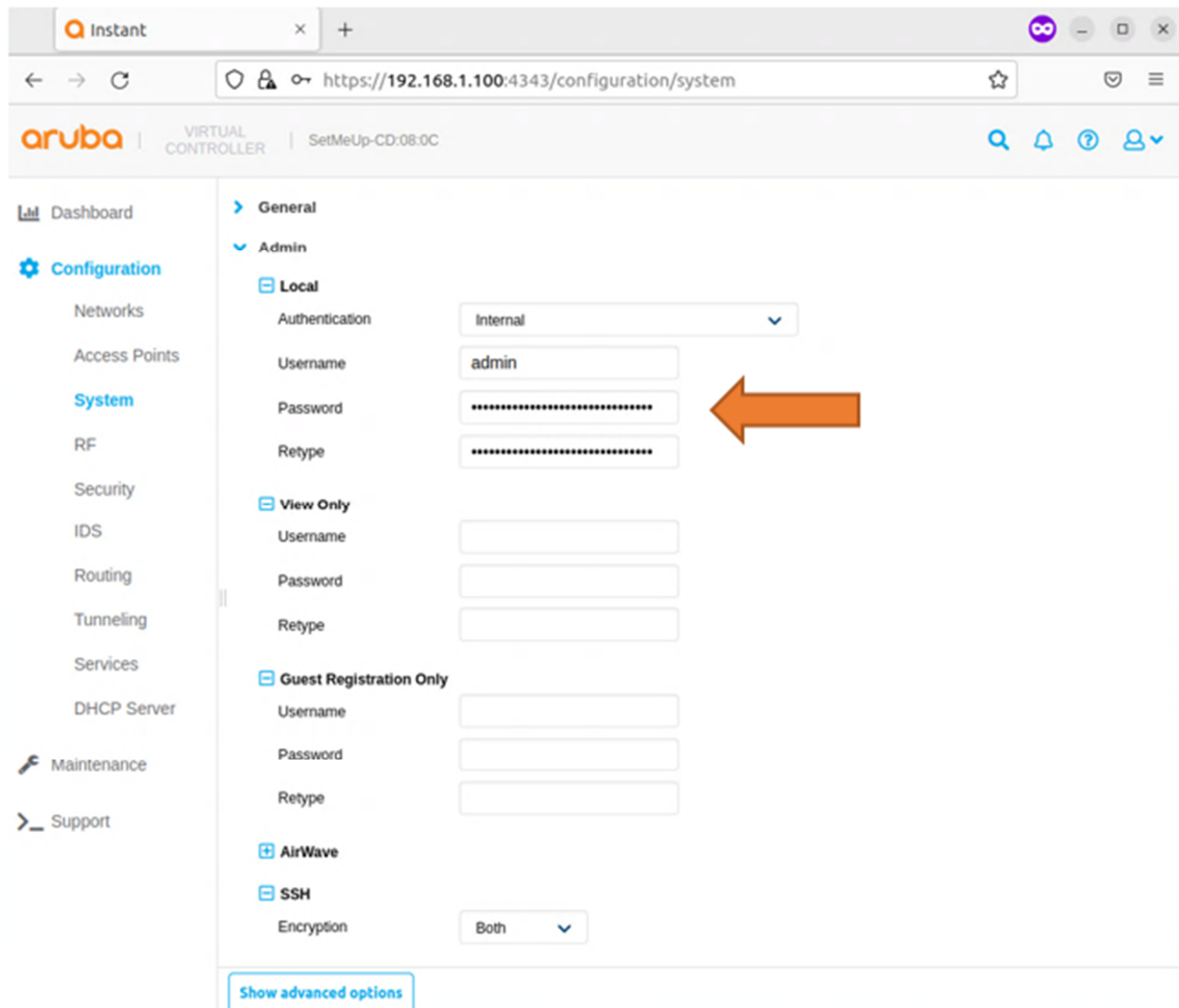


Figure 7: The Sections of the Aruba Instant Main GUI Page

4.5.1 System Username and Password

The default username for the Aruba is *admin*. The default password will be one of the following, admin, cabinaxe, or the Aruba serial number. It is recommended that these be changed. The system username and password can be changed from the Admin selection in the GUI. Using the options on the GUI left-most panel, the path to set this is: *Configuration > System*, then select *Admin* from the GUI as shown in Figure 8.



The screenshot displays the Aruba Virtual Controller web interface. The browser address bar shows the URL `https://192.168.1.100:4343/configuration/system`. The left-hand navigation pane includes sections for Dashboard, Configuration (with sub-items like Networks, Access Points, System, RF, Security, IDS, Routing, Tunneling, Services, and DHCP Server), Maintenance, and Support. The 'System' option is currently selected. The main content area is titled 'General' and contains an 'Admin' section. Under 'Admin', there are three expandable categories: 'Local', 'View Only', and 'Guest Registration Only'. The 'Local' category is expanded, showing fields for 'Authentication' (set to 'Internal'), 'Username' (set to 'admin'), 'Password' (masked with dots), and 'Retype' (masked with dots). An orange arrow points to the 'Password' field. Below these are fields for 'View Only' and 'Guest Registration Only'. At the bottom of the 'Admin' section, there are expandable sections for 'AirWave' and 'SSH' (with an 'Encryption' dropdown set to 'Both'). A 'Show advanced options' button is located at the bottom of the configuration panel.

Figure 8: System Username and Password Dialog Box.

4.6 Virtual Controller Architecture

The Aruba IAP uses a Virtual Controller architecture for ease of deployment and centralized wireless network management.

An Instant AP cluster consists of member Instant APs and a conductor Instant AP in the same VLAN, as they communicate with broadcast messages. A virtual controller is a combination of the whole cluster, as the member Instant APs and conductor Instant AP coordinate to provide a controllerless Instant solution. In an Instant deployment scenario, the first Instant AP that comes up becomes the conductor Instant AP. All other Instant APs joining the cluster after that Instant AP, become the member Instant APs.

In an Instant deployment scenario, only the first Instant AP or the conductor Instant AP needs to be configured. The other Instant APs download configurations from the first Instant AP that is configured. The Instant solution constantly monitors the network to determine the Instant AP that must function as a conductor Instant AP at a given time. The conductor Instant AP may change as necessary from one Instant AP to another without impacting network performance. Each Instant AP model has a minimum required software version.

You can set the name of the virtual controller along with other configuration parameters, from the General tab of the System dialog box, as show in Figure 9 below.

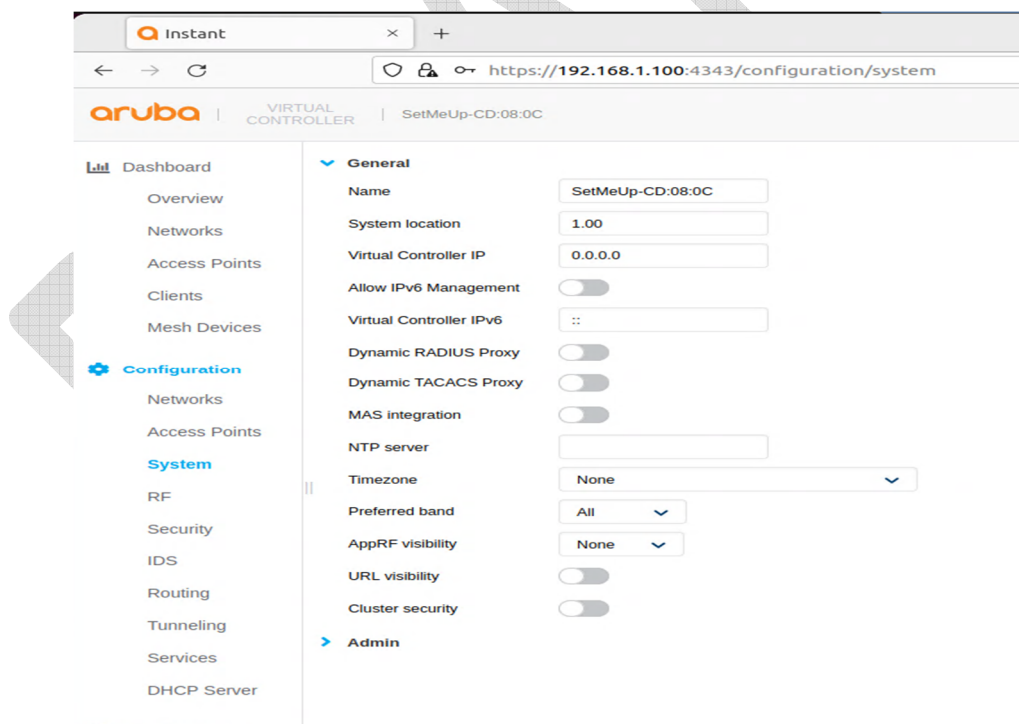


Figure 9: The Virtual Controller General Setup screen.

4.6.1 IAP Configuration

On the Configuration GUI page you can select one of the IAPs and edit the configuration. You should give each of your IAPs a relevant name for easy identification. You can also select which IAP will be the preferred master. Whichever IAP is configured as the preferred master will also become the virtual controller. Access is via the left-panel: **Configuration > Access Points** (Select the Access Point, and use the edit “pencil”). See Figures 10 & 11.

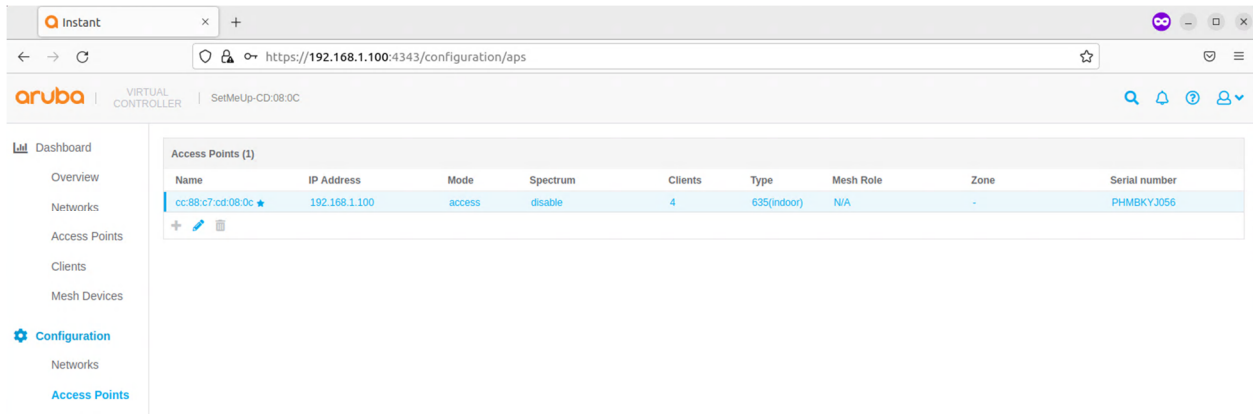


Figure 10: Select / Edit the Access Point screen.

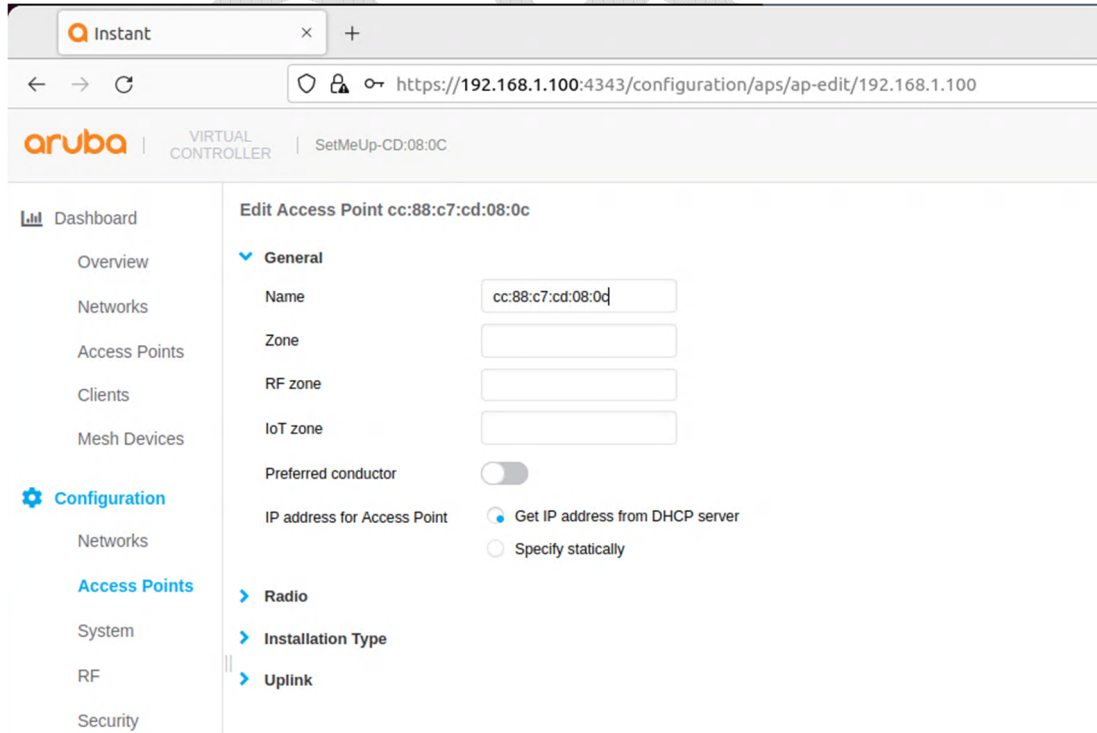


Figure 11: The Edit Access Point screen.

4.7 WLAN Setup

There are four steps to creating an SSID:

1. Configure WLAN Settings. Select the type of SSID you want to create.
 - a. Employee Network: This network type is used by the employees in an organization and it supports passphrase-based or 802.1X-based authentication methods.
 - b. Voice Network: This network type provides voice traffic prioritization, and allows you to configure a network profile for devices that only provide voice services.
 - c. Guest Network: Provides captive portal or passphrase-based authentication methods for non-employee users.
2. Configure VLAN Settings for a WLAN SSID Profile.
3. Configure Security Settings for a WLAN SSID Profile.
 - a. Enterprise and Personal support a variety of encryption methods.
 - b. The Open security level, no encryption settings are required, but optional methods are available.
4. Configure Access Rules for a Network.

The GUI used to configure SSIDs is shown below in Figure 12. Click on the “+” button to add a new SSID.

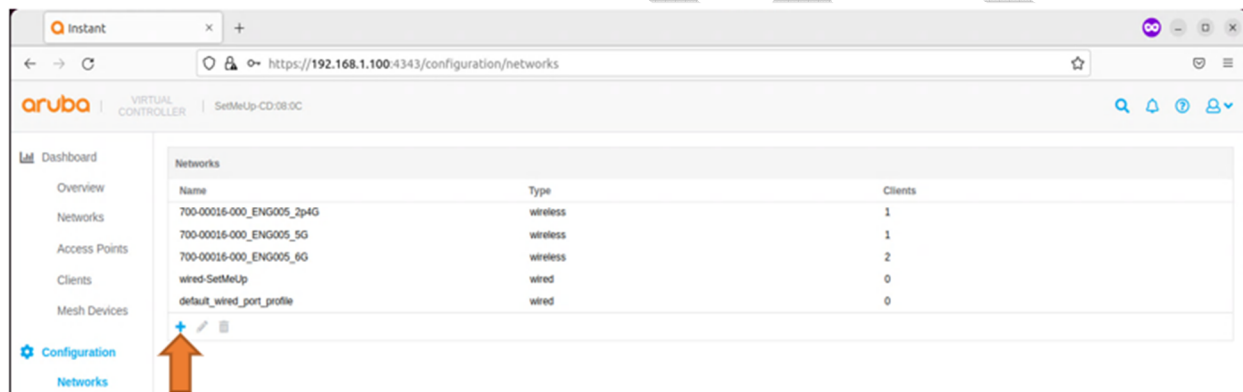


Figure 12: Creating an SSID

Step 1

Clicking the “ + ” button brings up the **New Network - Basic** tab. Provide a name for the new network, and select the type of SSID you want to create as shown in Figure 13

The screenshot displays the Aruba Virtual Controller web interface. At the top, there's a browser address bar showing the URL `https://192.168.1.100:4343/configuration/networks/network-add`. Below the header, the left sidebar contains navigation options: Dashboard, Overview, Networks, Access Points, Clients, Mesh Devices, Configuration (selected), and Networks. The main content area is titled 'New Network' and features four tabs: Basic (active), VLAN, Security, and Access. Under the 'Basic' tab, the 'Name & Usage' section includes a 'Name' field with the value 'Test_Network1', a 'Type' dropdown menu set to 'Wireless', and a 'Primary usage' dropdown menu set to 'Employee'. The 'Primary usage' dropdown is open, showing options: Employee, Voice, and Guest. A large 'DRAFT' watermark is visible across the center of the image.

Figure 13: The Basic Tab of the New Network configuration GUI

Step 2

The VLAN screen is where you configure the VLAN assignment and client IP assignment. The available VLAN and client IP assignment options are shown below in Figure 14.

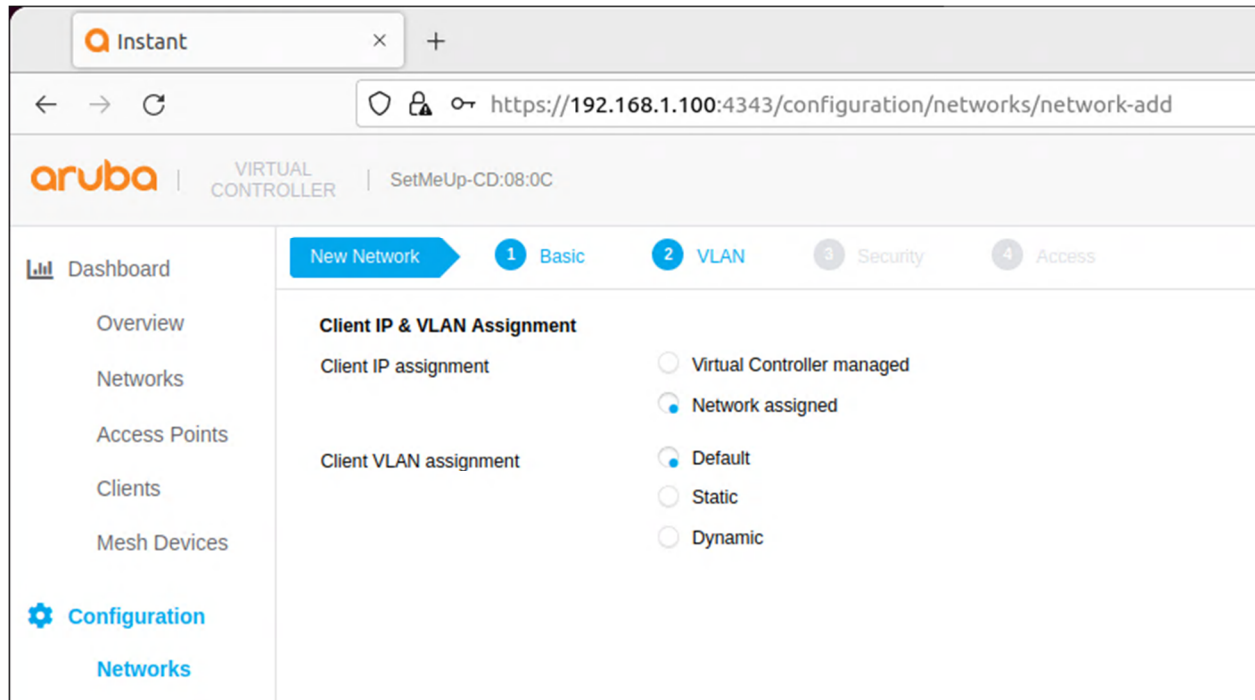


Figure 14: The VLAN Tab of the New Network GUI screen

The two client IP assignment options are Virtual Controller Managed and Network assigned.

Virtual Controller Managed

On selecting this option, the wired client obtains the IP address from the virtual controller. When this option is used, the source IP address is translated to the physical IP address of the conductor Instant AP for all client traffic that goes through this interface. The virtual controller can also assign a guest VLAN to the client.

Network Assigned

On selecting this option, the IP address is obtained from the network.

Step 3

The Security tab is where you set the security level. There are three levels; Open, Personal, and Enterprise. Selecting the Open level provide options shown in Figure 15.

VIRTUAL
CONTROLLER

SetMeUp-CD:08:0C

Dashboard

Configuration

Networks

Access Points

System

RF

Security

IDS

Routing

Tunneling

Services

New Network

1 Basic

2 VLAN

3 Security

Security Level

Security Level

Open

Encryption

None

Enhanced Open

☒

MAC authentication

☐

Denylisting

☐

Enforce DHCP

☐

Fast Roaming

802.11k

☐

802.11v

☐

Figure 15: Open Security level options

Selecting the Personal level provides the options shown in Figure 16.