

Aruba Instant IAP Setup Notes

June 2012 – Version 3

Aruba Instant (or IAP) is a simple to deploy turn-key WLAN solution consisting of one or more access points. As long as you have an Ethernet port with connectivity to the Internet you can have the system up and running in less than 10 minutes. Although Aruba Instant is easy to deploy it contains many of the high-end RF and network management features of an enterprise WLAN solution. Aruba Instant is designed specifically for ease of deployment and proactive management for small customers or remote locations that don't have on-site engineers (network or RF) or immediate access to help desk personnel.

Aruba Instant consists of at least one IAP access point as a virtual controller (VC). The virtual controller resides within one (any) of the access points. The Access Point (AP) housing the virtual controller functions like any other AP with full RF scalability. The beauty of Aruba Instant is you don't know or specify which AP is running the virtual controller. This is done automatically and provides redundancy should the assigned Master VC have issues, another IAP in the cluster will automatically become the new Master VC.

You need to configure the first AP during the Aruba Instant deployment. After the initial AP is deployed all subsequent APs inherit all necessary information from the virtual controller. Aruba Instant continually monitors the network to determine which AP should function as the virtual controller. When necessary the virtual controller will move from AP to AP without any impact to the network.

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Setup with DHCP Server

Ensure a DHCP Server is available on the subnet you are connecting the IAP to

Connect to the IAP Console port and start a Terminal emulator

Connect the IAP into a PoE port

Determine the DHCP IP address assigned

After determining the IAP IP Address, use a browser to connect to the IP address and login (default admin/admin)

Setup with no DHCP Server

Connect to the IAP Console port and start a Terminal emulator

Connect the IAP into a PoE port

Watch the Console, "Hit <Enter> to stop autoboot"

Set the following IP settings in the IAP (examples)

```
apboot> setenv ipaddr 192.168.4.201
apboot> setenv netmask 255.255.255.0
apboot> setenv gatewayip 192.168.4.1
apboot> save (save the entries)
Saving Environment to Flash...
Un-Protected 1 sectors
.done
Erased 1 sectors
Writing
apboot> reset (reset the IAP)
```

Connect to the instant SSID - Login

Connect the IAP to a network switch and power up the unit. After a short period (booting) the IAP will begin broadcasting the default SSID. Connect to the "instant" wifi SSID



Then using a web browser

Navigate to the URL "<http://instant.arubanetworks.com/>" (default admin/admin)

OR

Navigate to the URL "<http://{IP Address}/>" (default admin/admin)

To get to the login screen

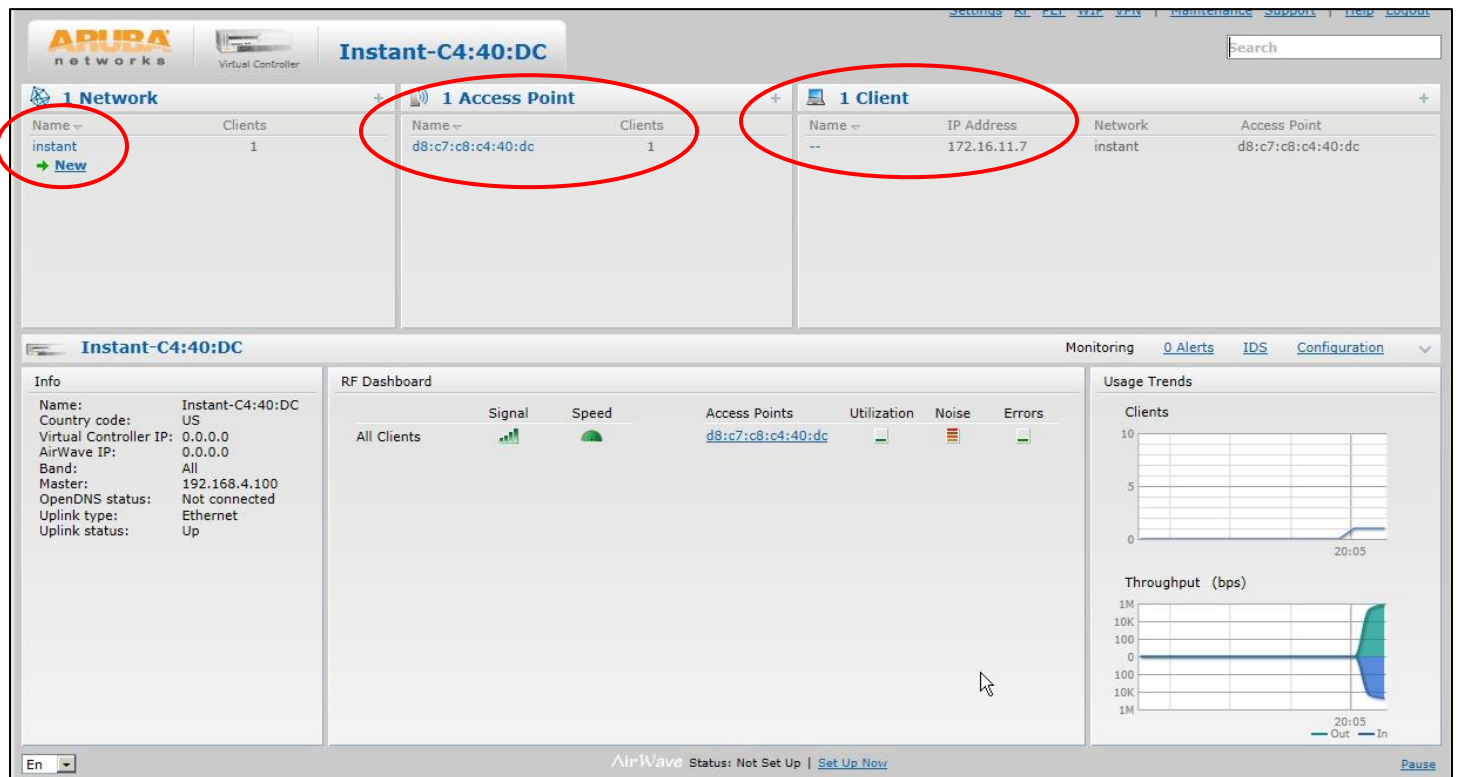


After a successful login you should be presented with the Main dashboard management screen

Note there is only the default "instant" SSID (you connected to)

There are no other IAP's in the network (this will be configured as the Master VC)

Your PC has been given an IP address from the IAP Virtual Controller



Instant-C4:40:DC

1 Network		1 Access Point		1 Client			
Name	Clients	Name	Clients	Name	IP Address	Network	Access Point
instant	1	d8:c7:c8:c4:40:dc	1	--	172.16.11.7	instant	d8:c7:c8:c4:40:dc

Info

Name: Instant-C4:40:DC
Country code: US
Virtual Controller IP: 0.0.0.0
AirWave IP: 0.0.0.0
Band: All
Master: 192.168.4.100
OpenDNS status: Not connected
Uplink type: Ethernet
Uplink status: Up

RF Dashboard

All Clients: Signal [Bar Chart] Speed [Bar Chart]

Access Points: d8:c7:c8:c4:40:dc [Bar Chart]

Utilization [Bar Chart] Noise [Bar Chart] Errors [Bar Chart]

Usage Trends

Clients: [Line Graph]

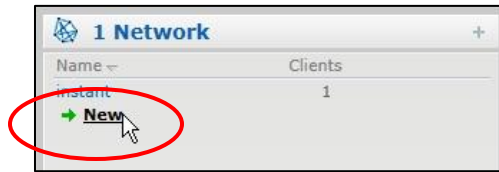
Throughput (bps): [Line Graph]

AirWave Status: Not Set Up | [Set Up Now](#)

Creating a Basic User / Employee SSID

Easy steps using the GUI

In the upper left corner of the menu select “New”



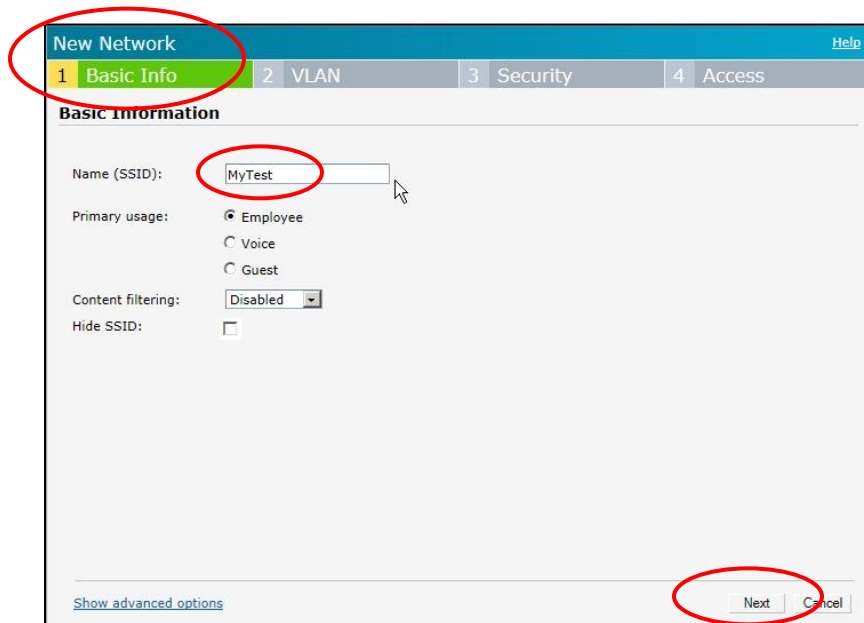
Step 1 – Basic Info

A new pop-up is displayed, presenting you with a simple 4 step process. Fill in and complete the following on the screen:

Enter a **Name (SSID)**

Select a **Primary usage**

Select the **Client IP assignment, VLAN or IP address assignment from the IAP**

A screenshot of a "New Network" configuration wizard. The title bar says "New Network" and "Help". Below the title bar are four tabs: "1 Basic Info" (highlighted in green), "2 VLAN", "3 Security", and "4 Access". The "Basic Information" section contains the following fields:

- Name (SSID): A text box containing "MyTest", circled in red.
- Primary usage: Radio buttons for "Employee" (selected), "Voice", and "Guest".
- Content filtering: A dropdown menu set to "Disabled".
- Hide SSID: An unchecked checkbox.

At the bottom right, there are "Next" and "Cancel" buttons, both circled in red. At the bottom left, there is a link for "Show advanced options".

Click on the “**Show advanced options**” to see additional settings and options – recommend leaving the default settings as seen here.

New Network Help

1 Basic Info 2 VLAN 3 Security 4 Access

Basic Information

Name (SSID):

Primary usage: Employee
 Voice
 Guest

Content filtering: Disabled

Hide SSID:

Band:

Inactivity timeout: secs

Bandwidth Limits:

Percentage of Airtime
 Each user
 Each radio

Broadcast/Multicast:

Multicast optimization:

Broadcast filtering:

DTIM interval:

Transmit Rates:

2.4GHz: Min: Max:

5GHz: Min: Max:

[Hide advanced options](#) Next Cancel

It is recommended not changing the advanced options on this page until reading the manual and becoming familiar with the functions and effects on clients and traffic.

When complete select **“Next”**

Step 2 – Client IP and VLAN assignment

The IAP allows you to control and select the method of IP address assignment and VLAN of the client. Below is the default page and settings:

New Network Help

1 Basic Info 2 VLAN 3 Security 4 Access

Client IP & VLAN Assignment

Client IP assignment: Virtual Controller assigned
 Network assigned

Client VLAN assignment: Default
 Static
 Dynamic

Back Next Cancel

If you have a DHCP server on the network default the Client IP assignment to **“Network assigned”**

Note the additional settings available in this configuration page:

Statically assign the Client VLAN

Client VLAN assignment: Default
 Static
 Dynamic

VLAN ID:

Dynamically assign based on Server Derivation rules from the Authentication Server

Client VLAN assignment: Default
 Static
 Dynamic

VLAN Assignment Rules
Default VLAN: 1

New VLAN Assignment Rule

Attribute:	Operator:	String:	VLAN:
Aruba-User-R:	contains	myemployee	1

OK Cancel

Step 3 - Security

By default the Security setting presented is WPA2-Persona (Pre-Shared Key). Using the slide bar and pull down menu's on the left you can change the level of Authentication and Security as required.

New Network Help

1 Basic Info 2 VLAN 3 Security 4 Access

Security Level

More Secure

Enterprise

Personal

Open

Less Secure

Key management: WPA-2 Personal

Passphrase format: 8-63 chars

Passphrase:

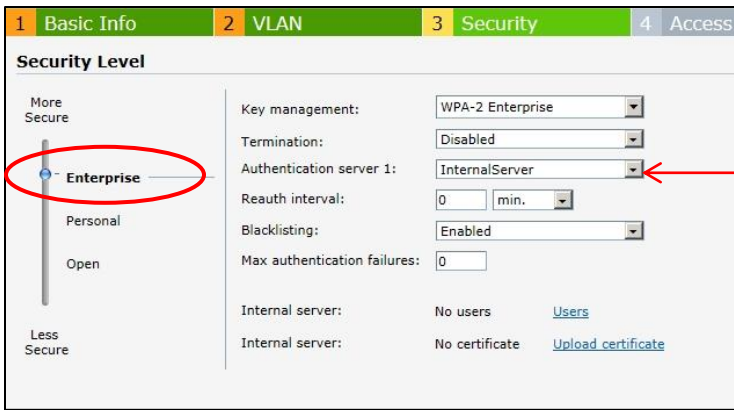
Retype:

MAC authentication: Disabled

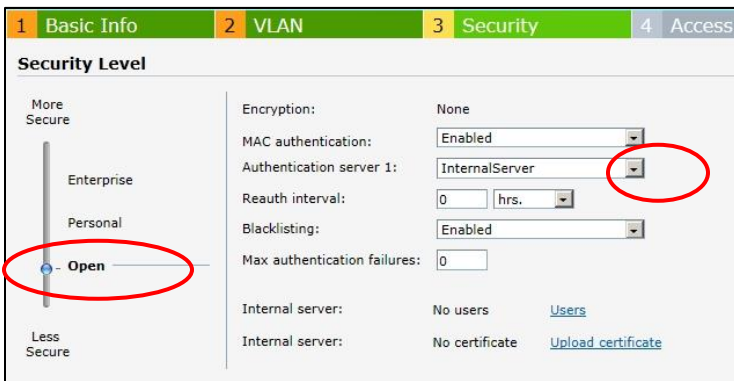
Back Next Cancel

Other Options are Available (next page)

WPA- Enterprise via Internal Database or NEW external Radius Server (via pull down)



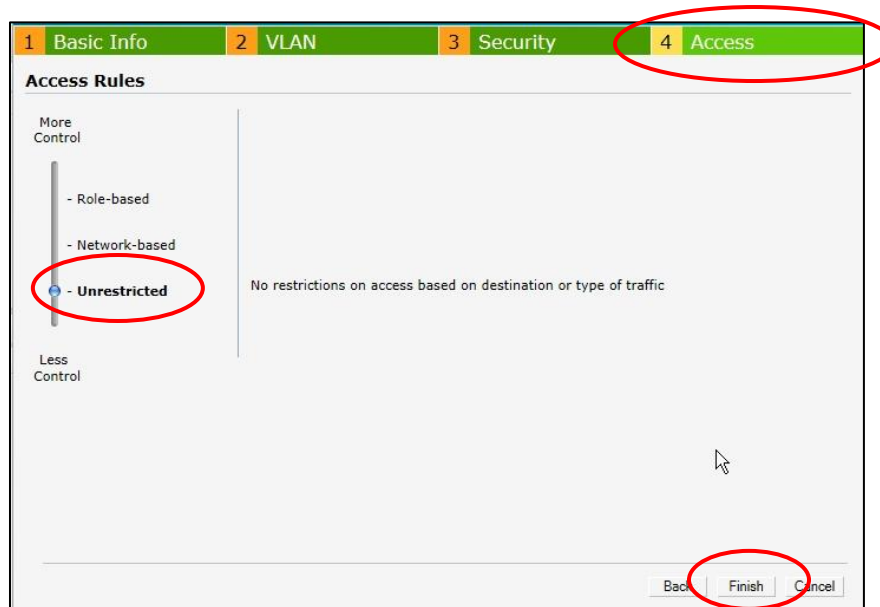
Open or MAC address Authentication
(MAC Address via internal database or NEW External Server via pull down)



When complete select "Next"

Step 4 - Access

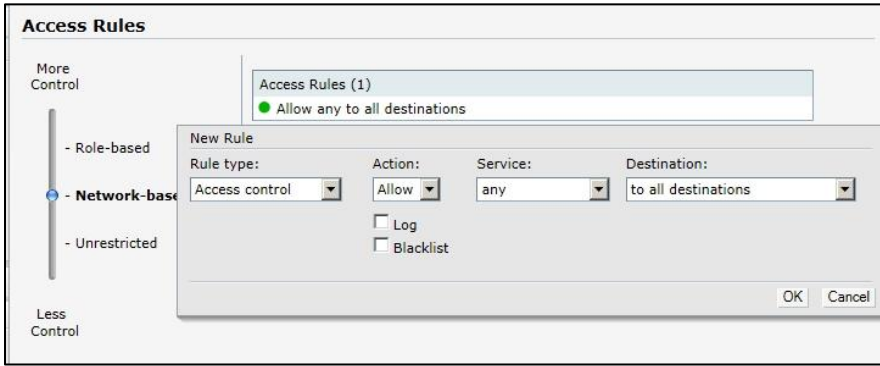
The default is 'Unrestricted' access allowing any and all protocols and destinations.



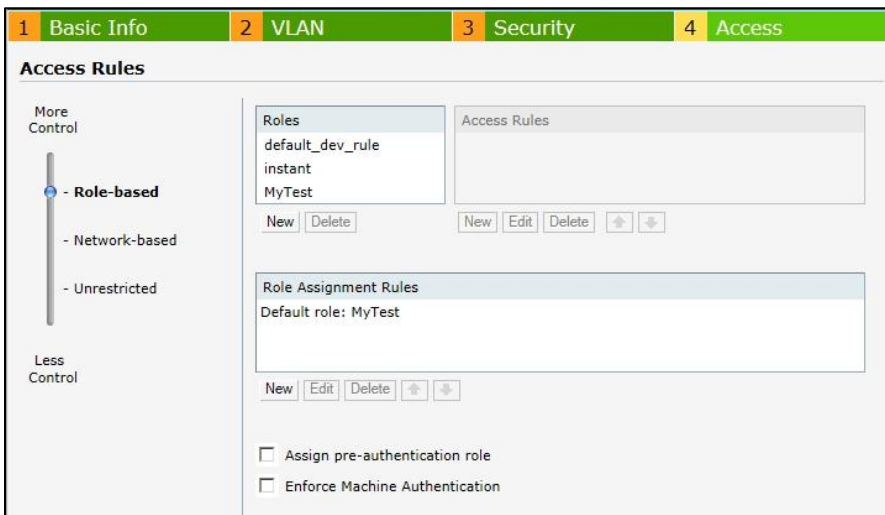
Additional Access settings are available

Network Rules

Using the “New” button you can add Firewall rules as necessary

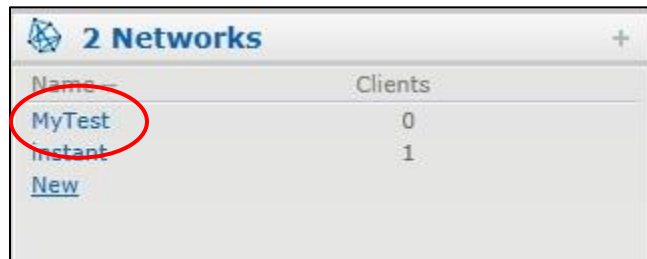


Role Based - Rules allowing client role setting based on authentication Server Derivation rules (using an external Radius Server for authentication). Again select New to create the Server Derivation rule / role assignment.



When complete select “**Finish**”

The new MyTest SSID / network setup is complete



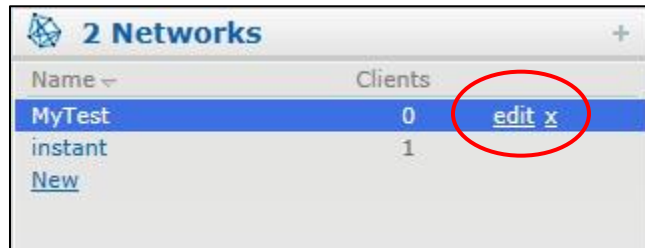
Now disconnect from the default “instant” SSID and reconnect to the new “MyTest” SSID (Once you create a new SSID the default “instant” SSID will be removed)

Note that new client connections are now provided an IP address from the network DHCP server



Changing the Setup

Anytime you wish to change or adjust these settings click on the SSID name (myemployee) and select “**Edit**” to modify. Select “**X**” to delete



Name	Clients
MyTest	0 edit x
instant	1

Changing the AP Name

Anytime you wish you can change the AP name (easier to identify by location, room name, etc.) click on the AP name (the AP MAC address by default) under the Access Point menu and then “Edit”

New Name



Help

General Radio

Name:

IP address for Access Point:

Get IP address from DHCP server

Specify statically

Other Settings and Control

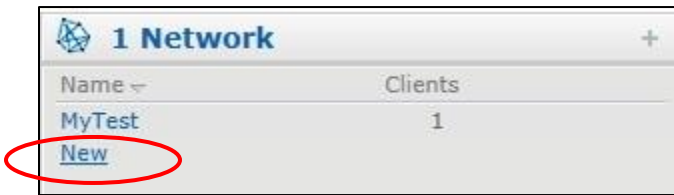
The user has control over other a variety of settings within the Instant network accessible from the menu selection available in the upper right corner of the Main page screen



Creating a Guest Network SSID

With the creation of the internal network SSID (MyTest) use the same basic steps to create a Guest Network SSID.

Click on “New”



Guest Step 1 - Basic Info

Continue with the basic setup steps followed earlier

Enter a **Name (SSID)**

Select a **Primary usage (Guest)**

New Network [Help](#)

1 Basic Info 2 VLAN 3 Security 4 Access

Basic Information

Name (SSID): MyGuest

Primary usage: Employee Voice Guest

Content filtering: Disabled

Hide SSID:

When completed select “Next”

Guest Step 2 - VLAN section

By default this is set to use the Instant VC as the DHCP server providing IP address to clients connecting to the Guest network.

New Network [Help](#)

1 Basic Info 2 VLAN 3 Security 4 Access

Client IP & VLAN Assignment

Client IP assignment: Virtual Controller assigned Network assigned

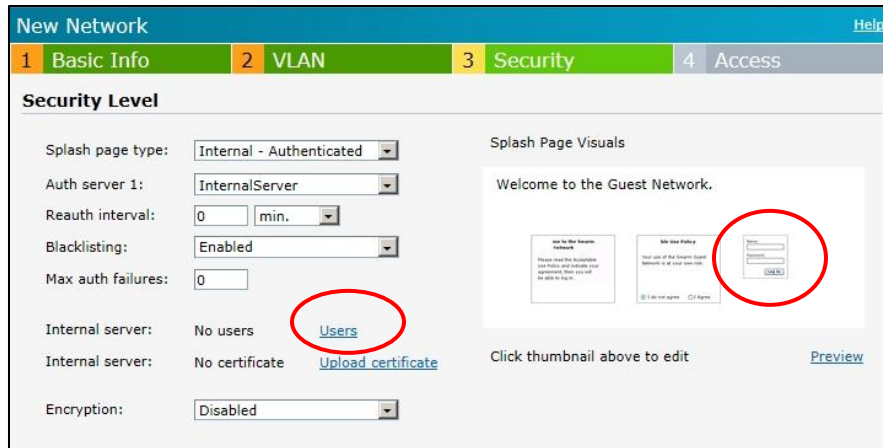
Guest Step 3 - Security

There are several methods available to authenticate clients on the guest network.

The default screen is presented using the internal database of the Instant VC to authenticate clients. If this method is selected it is required to enter User names and passwords into the internal database.

Note the “Internal server” shows no users (none have been added yet), to add users click on the “Users” link.

Note the default Guest Splash Screen (use “Preview” to view) presented – requiring a Username and Password.



Add a User

Username
Password

Add new user:

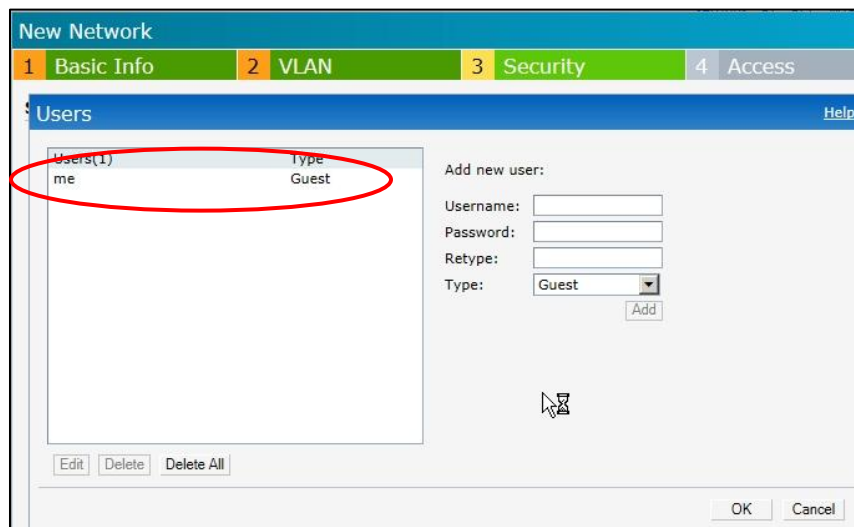
Username:

Password:

Retype:

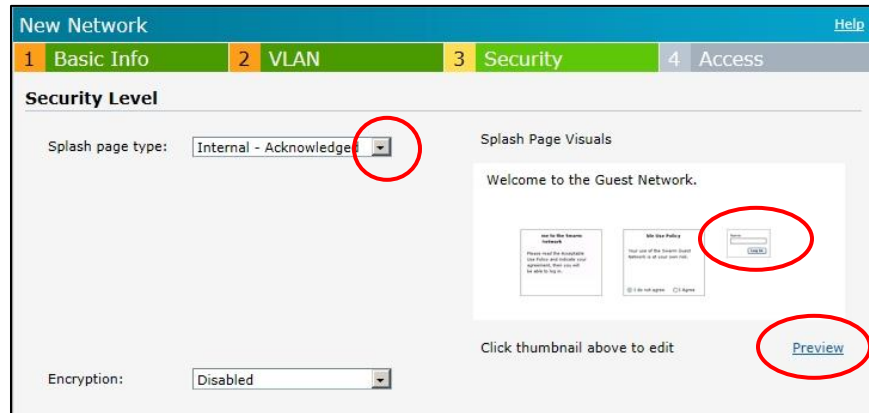
Type:

User added to the internal database



Using the pull down (Splash page type) changes the authentication method, (similar to the Aruba controller - username and password or email address).

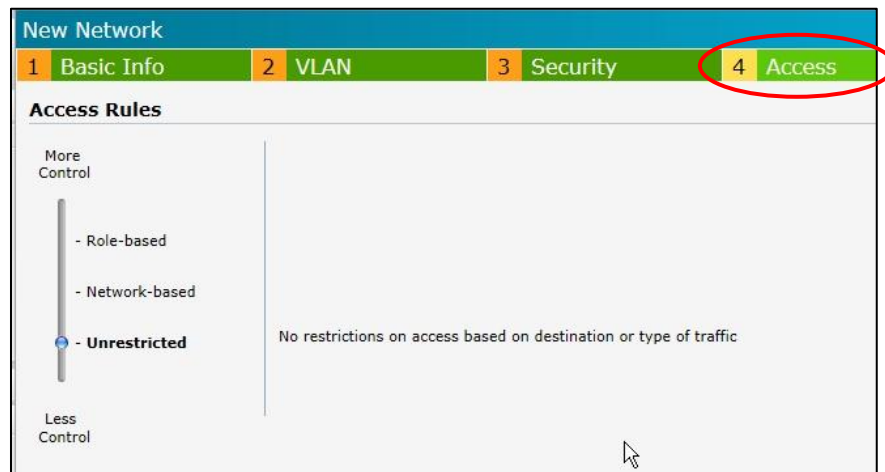
This allows clients on to the guest network entering an email address. You can preview the Guest splash page using the “Preview” link.



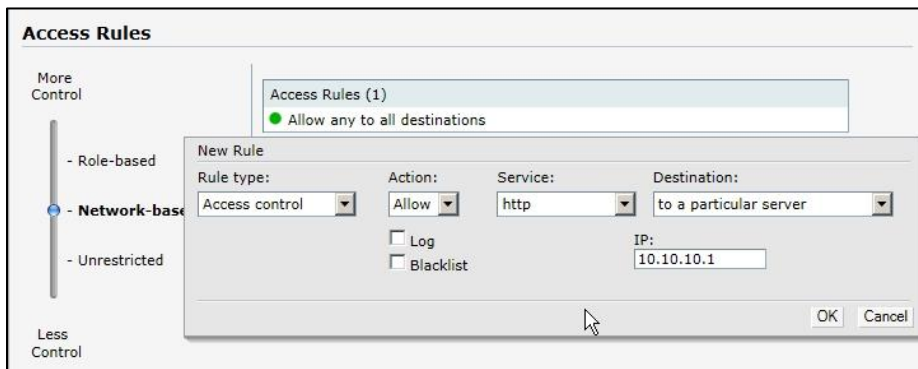
After selecting either of these two methods for Guest authentication click “Next”

Guest Step 4 - Access

Default Access - The Access selection screen is displayed. By default Guests are allowed unrestricted access. This can be changed to suit your security requirements.



Network Based –access rule



In this example Guests are allowed http to a particular server (10.10.10.1)

In this example 10.10.10.1 is the internal IP address of the internet firewall / content filter.

Role Based - Rules allowing client role setting based on authentication Server Derivation rules (using an external Radius Server for authentication)

Again select New to create the Server Derivation rule / role assignment.

Access Rules

More Control

Role-based

Network-based

Unrestricted

Less Control

Roles

default_dev_rule

MyGuest

MyTest

New Delete

Access Rules

New Edit Delete

Role Assignment Rules

Default role: MyGuest

New Role Assignment Rule

Attribute: Operator: String: Role:

Aruba-User-R... contains

default_dev_rule

OK Cancel

Assign pre-authentication role

Testing the Guest Network

Connect to the Guest SSID created.

Open a web browser and select an internet site to connect to.

The Guest should be presented with the web access page selected

Welcome to the Guest Network.

Please read and accept terms and conditions and then login.

This network is not secure and use it at your own risk.

I agree I do not agree

User Name: me

Password:

Login

Enter the **Username** and **Password** (previously entered into the internal database).

Ensure you check "I Agree" to the terms.

Click "Login"

You should now be connected to the Guest network.

Viewing the Instant dashboard will show:

Clients connected to the guest network (1)

The Name (Username) the guest entered to log into the network

The IP address assigned by the Instant VC DHCP

2 Networks		1 Access Point		1 Client		
Name ▾	Clients	Name ▾	Clients	Name	IP Address	Network
MyGuest	1	d8:c7:c8:c4:40:dc	1	me	172.16.11.7	MyGuest
MyTest	0					
New						