ExtremeWireless WiNG with Aruba ClearPass

Abstract: This document covers integration of ExtremeWireless WiNG with Aruba ClearPass Guest Manager functionality with Sponsored Guest Self-Registration login in combination with WiNG 5 Captive Portal.

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Extreme Networks, Inc.
145 Rio Robles
San Jose, California 95134
Phone / +1 408.579.2800
Toll-free / +1 888.257.3000
www.extremenetworks.com

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Pre-Requisites

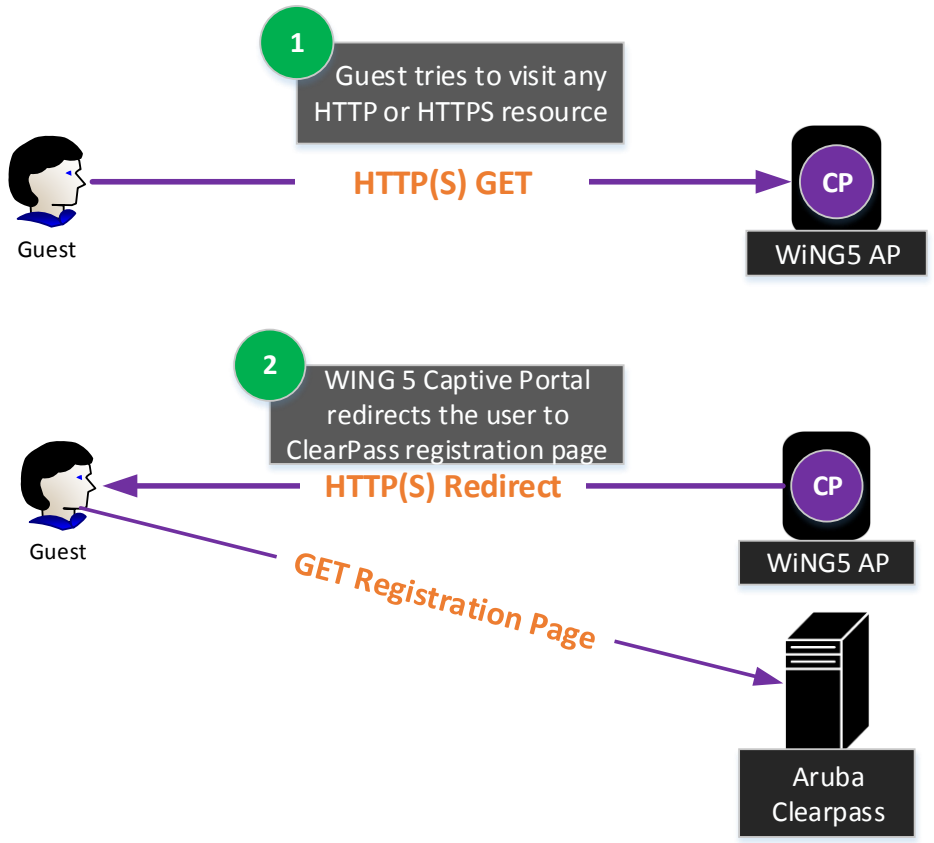
- WiNG firmware version 5.8.4.1-003R
- Aruba ClearPass Policy Manager version 6.6.0

Overview

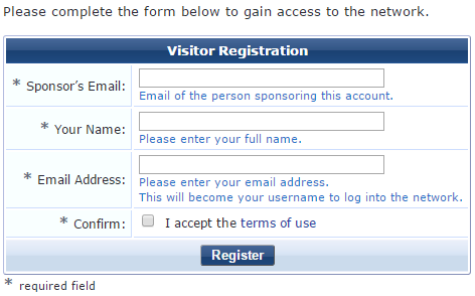
Aruba ClearPass allows guest users to register themselves by filling in the registration form with a sponsor email or phone number provided during registration. After guest user account is created a random username and passcode will be generated and an approval request sent to a sponsor specified during the registration.

Sponsor must confirm guest account in order to activate it. Upon account activation guest user will be allowed to log in via a captive portal using generated username and passcode.

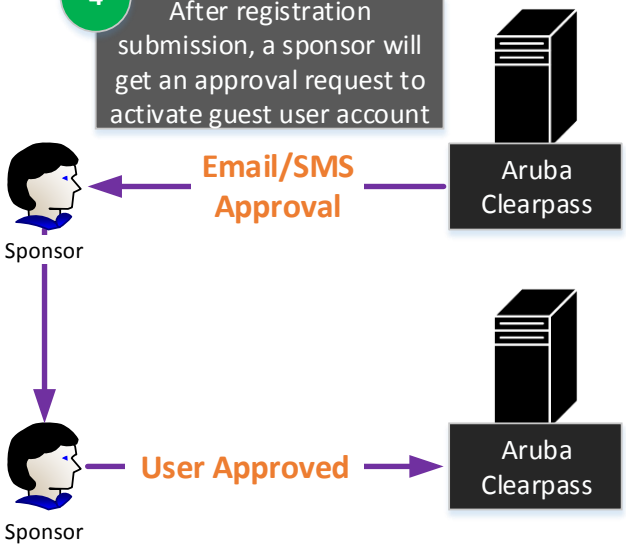
Following diagram outlines Guest Registration and Authentication Flow:



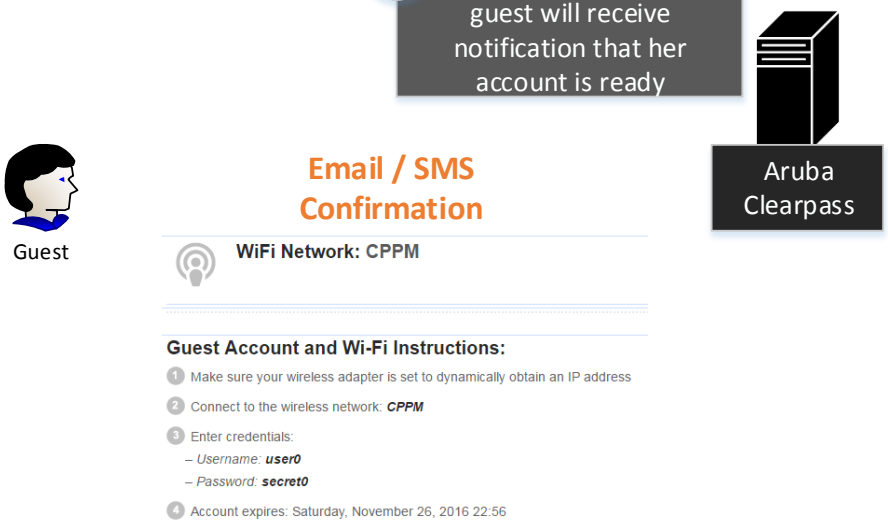
3 User is presented with Clearpass Guest Self Registration Page

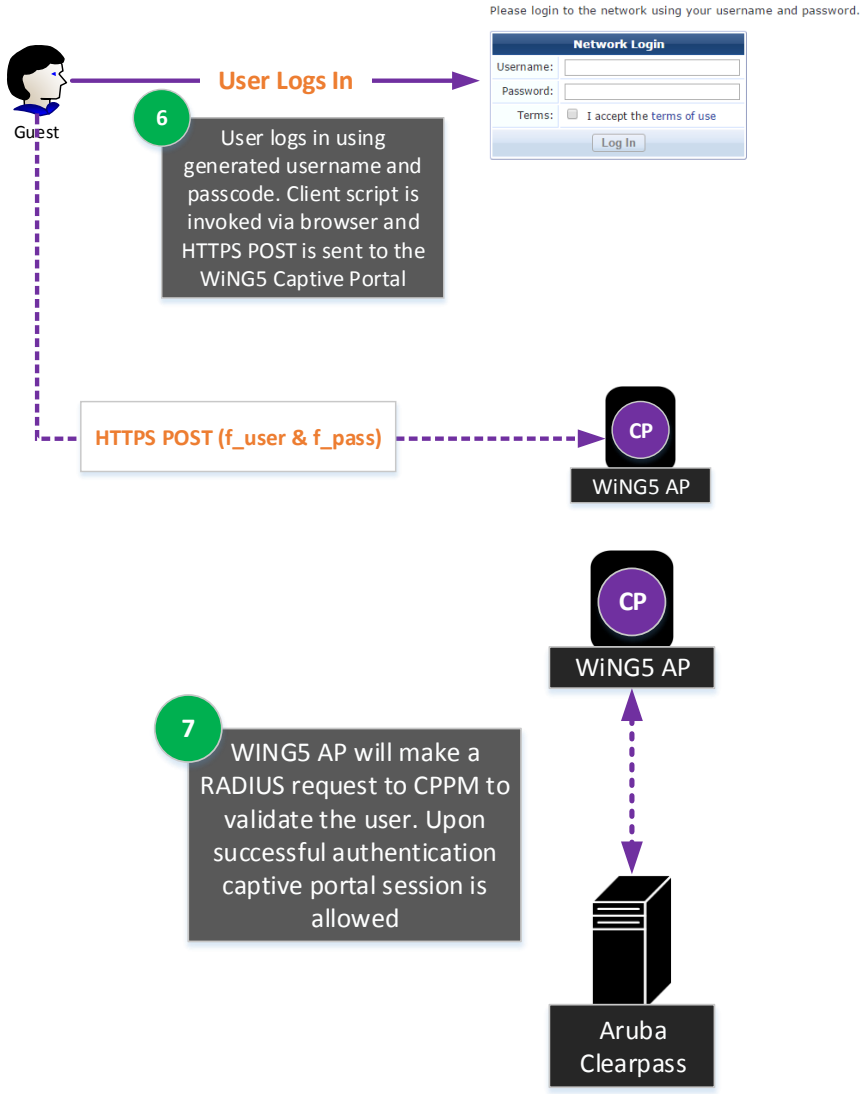


4 After registration submission, a sponsor will get an approval request to activate guest user account



5 Upon Sponsor approval guest will receive notification that her account is ready





Part 1 - Configuring ClearPass to enable Sponsored Guest Registration

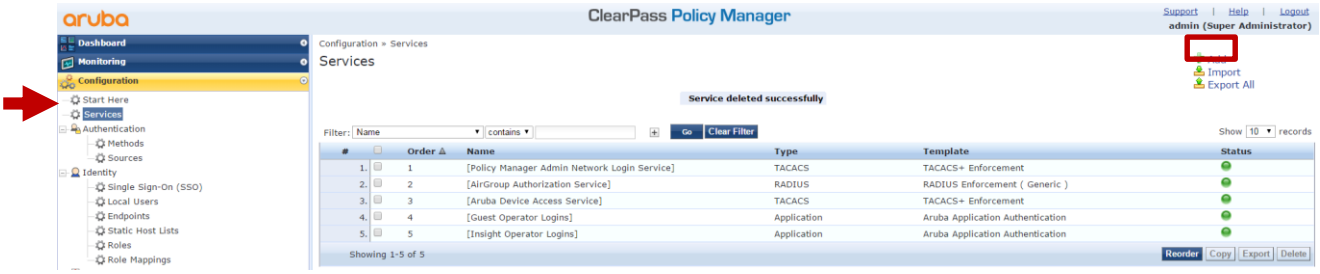
The configuration of ClearPass Policy manger consists of the following steps:

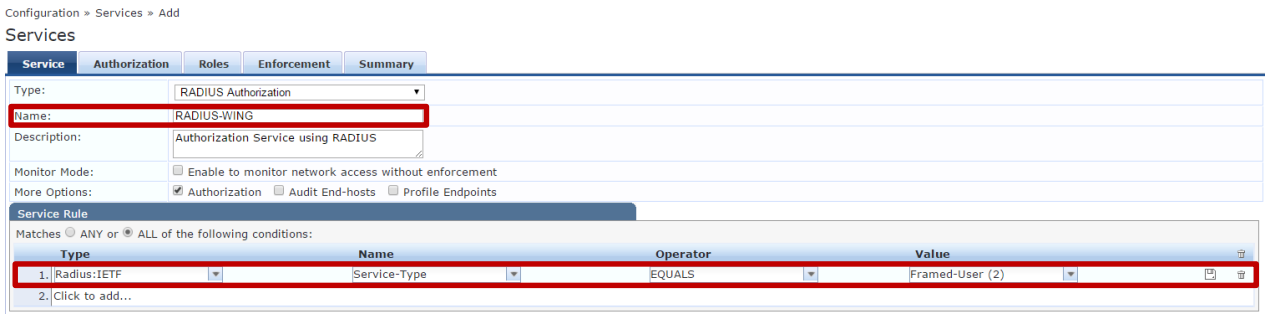
1. Configure RADIUS Service Rules and configure RADIUS Clients to allow WiNG Access Points to make RADIUS requests towards CPPM.
2. Configure SMTP message delivery in Policy Manager to allow sending guest receipts via email.
3. Configure Guest Registration login settings to allow integration with WiNG Captive Portal.
4. Enable Guest Registration and Sponsor confirmation
5. Change default guest receipt format.

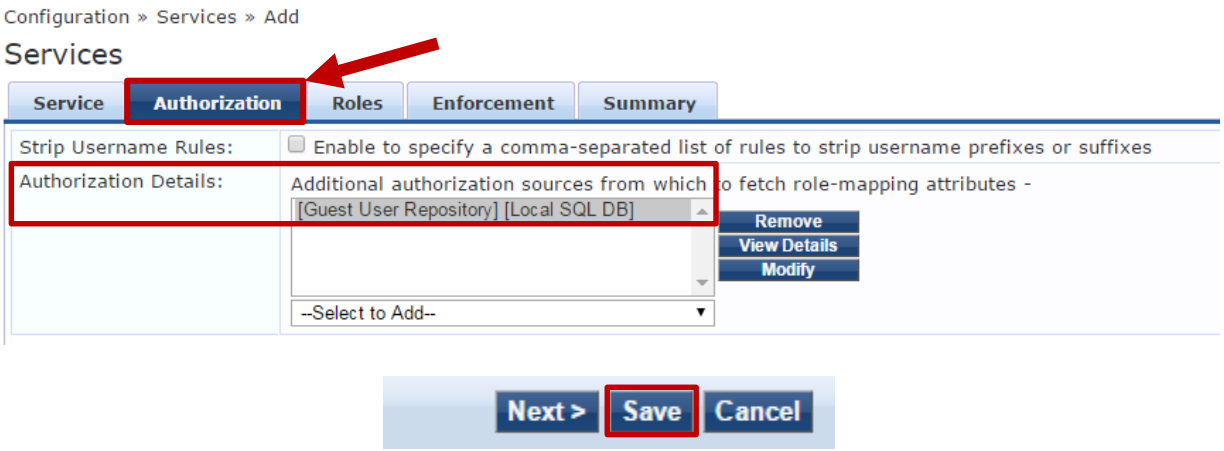
Step 1 – Configure RADIUS Service Rules and Configure RADIUS Clients

In order for ClearPass to allow RADIUS communication RADIUS service rules must be configured first, followed by RADIUS Client configuration.

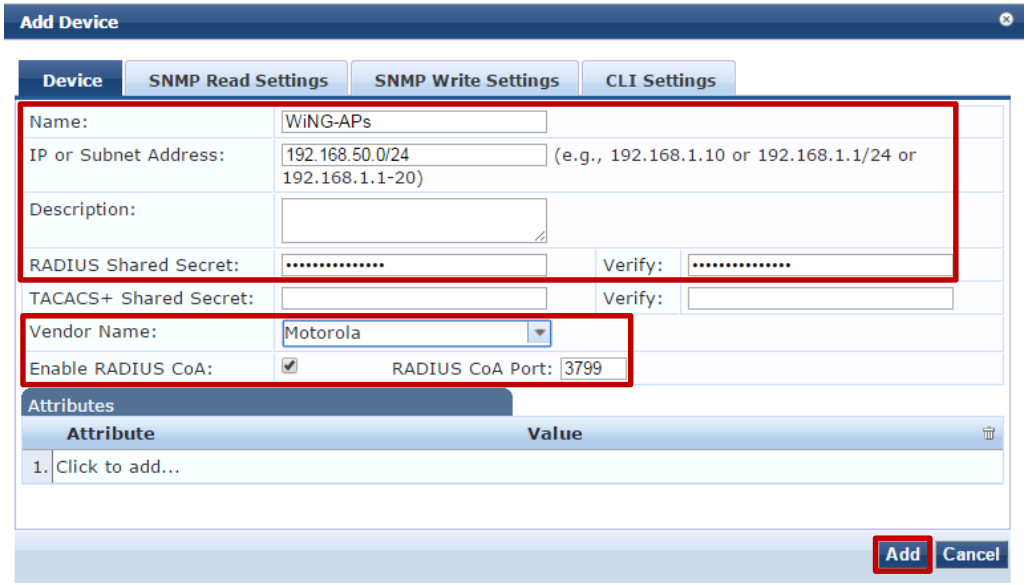
RADIUS services can be configured under ***Policy Manager → Configuration → Services*** tab:







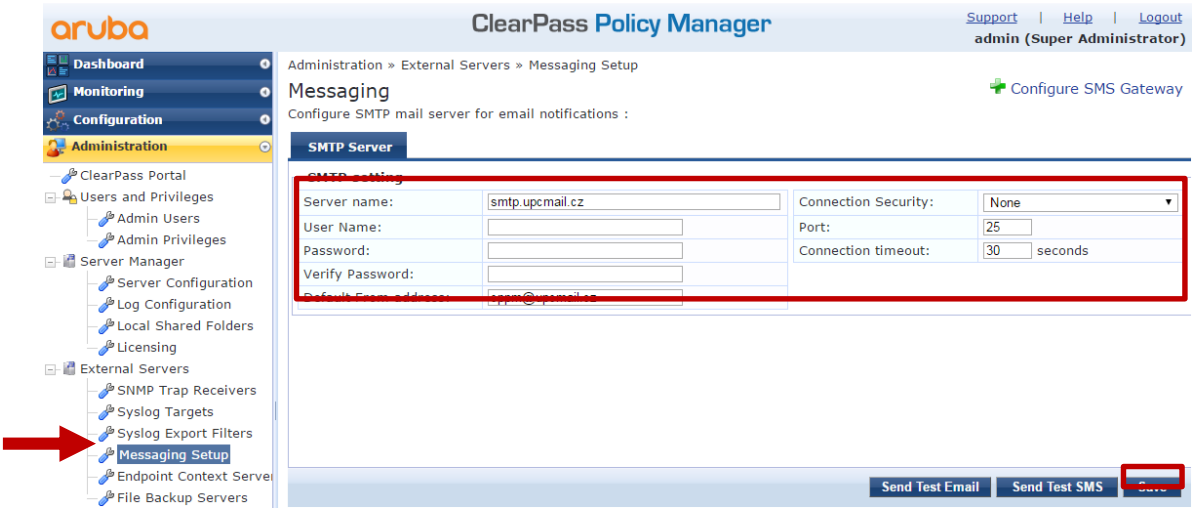
Next navigate to ***Network → Devices*** tab and create a new entry for WiNG Access Points. In this example an AP will make a RADIUS request directly to the CPPM without proxying it through the controller, hence we need to add a management subnet of the Access Points as a RADIUS Client identifier:



Step 2 – Configure SMTP message delivery in Policy Manager

To allow ClearPass to send guest receipts information and notifications to guest users and sponsors, SMTP relay server must be configured.

Navigate to ***Policy Manager → Administration → External Servers → Messaging Setup***:

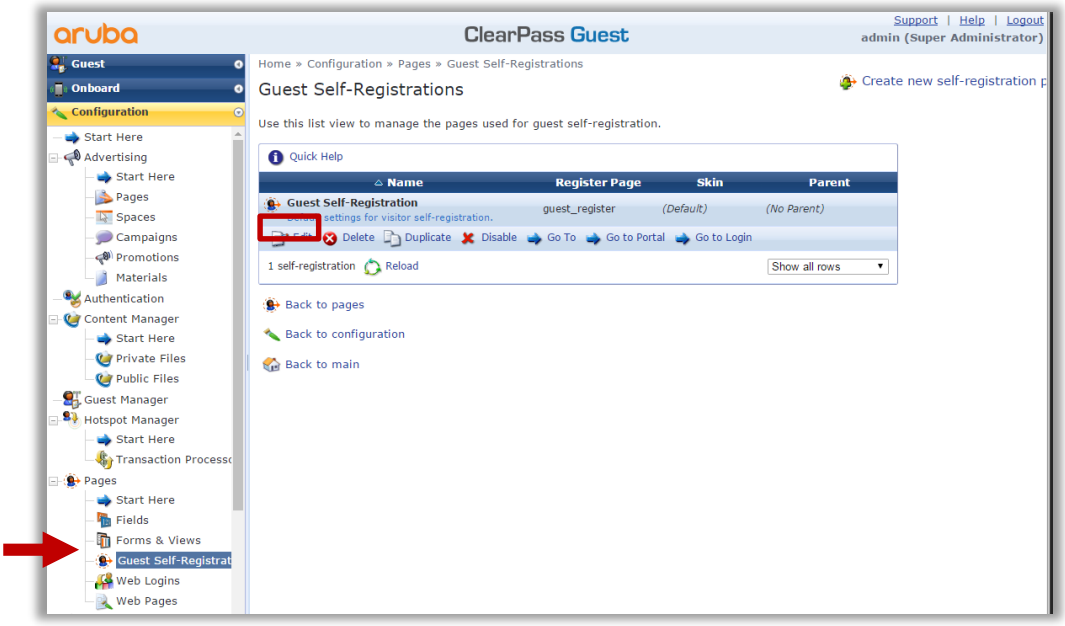


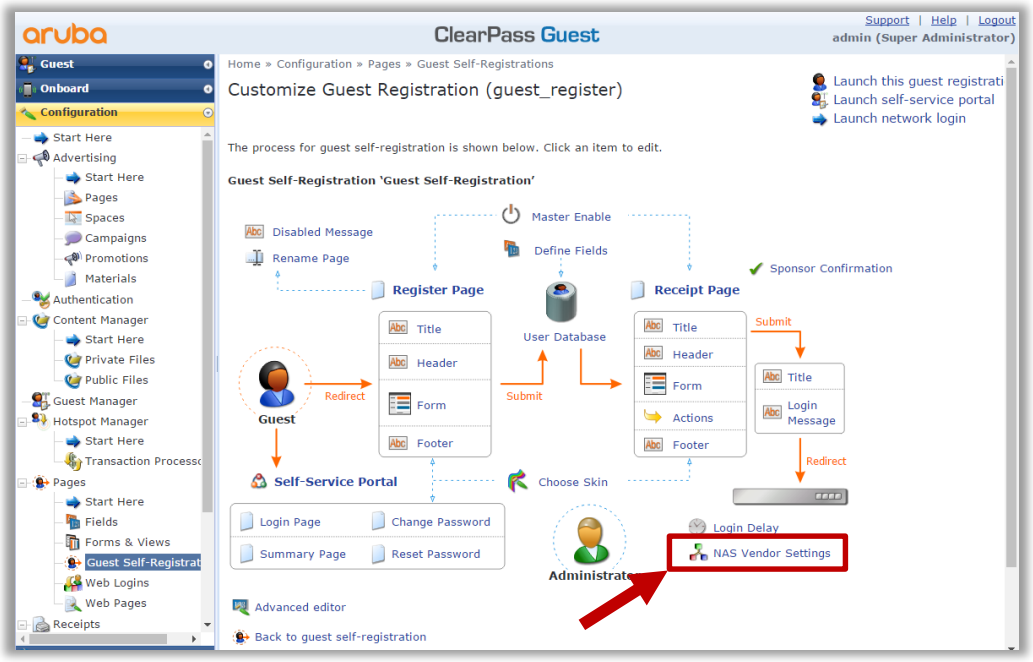
Step 3 – Configure Guest Login Settings

In order to integrate CPPM Captive Portal with WiNG 5 Captive Portal it is necessary to configure Guest Login settings on Clearpass to invoke client-side php script to send HTTP POST to WiNG Captive Portal with username and password.

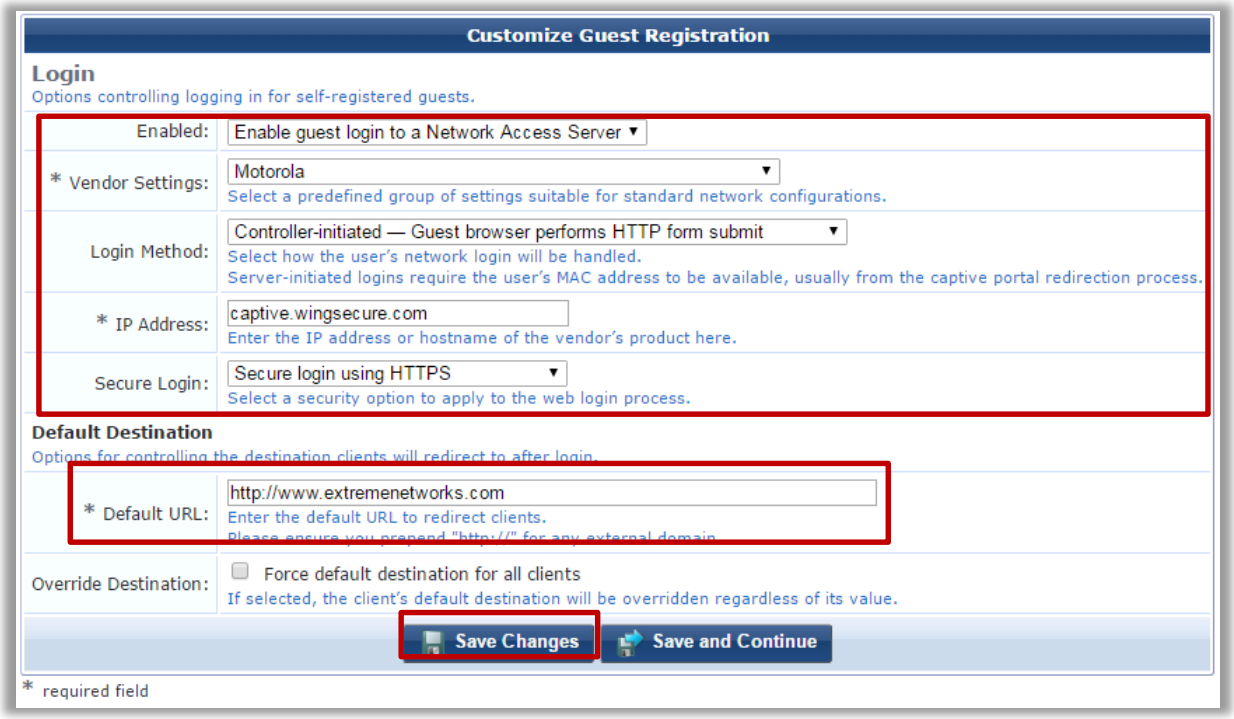
Login to Guest Manager UI by navigating to
https://<ClearPass_IP_or_FQDN>/guest/guest_index.php

Navigate to ***Configuration → Pages → Self Registration → Guest Self Registration → Edit***:





IP Address field should be equal to the virtual FQDN configured under WiNG Captive Portal Policy:



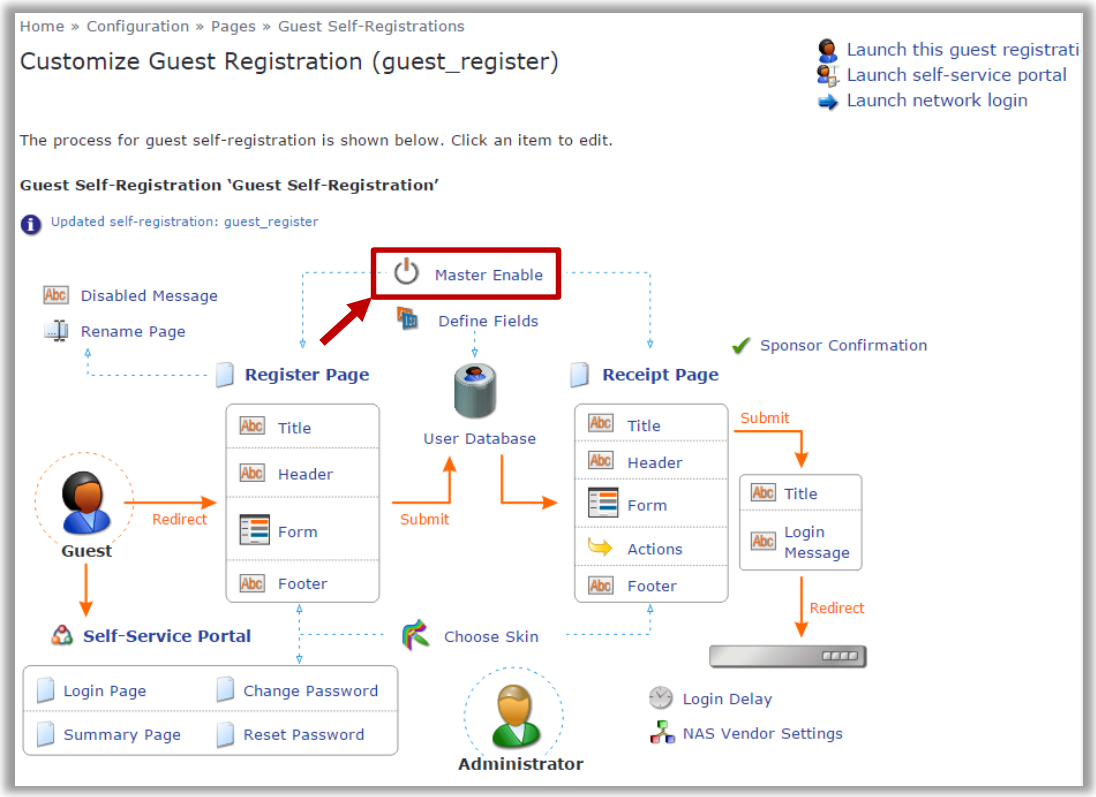
Note

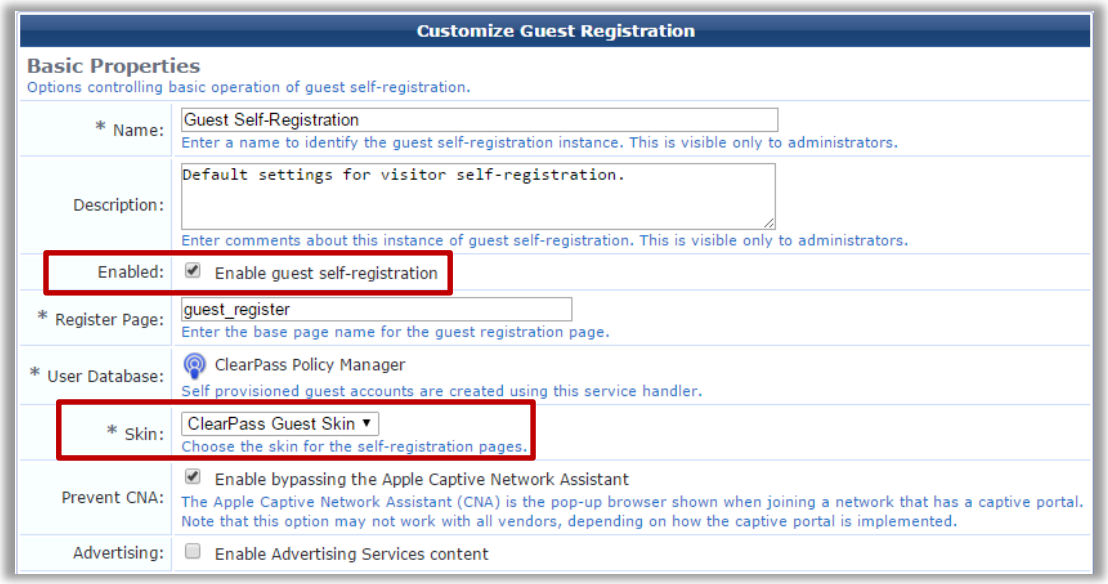
Currently a bug exists on ClearPass that does not allow to use HTTP connection mode of the Captive Portal, because it will continue to send HTTP POST to a secure port 444 using HTTP.

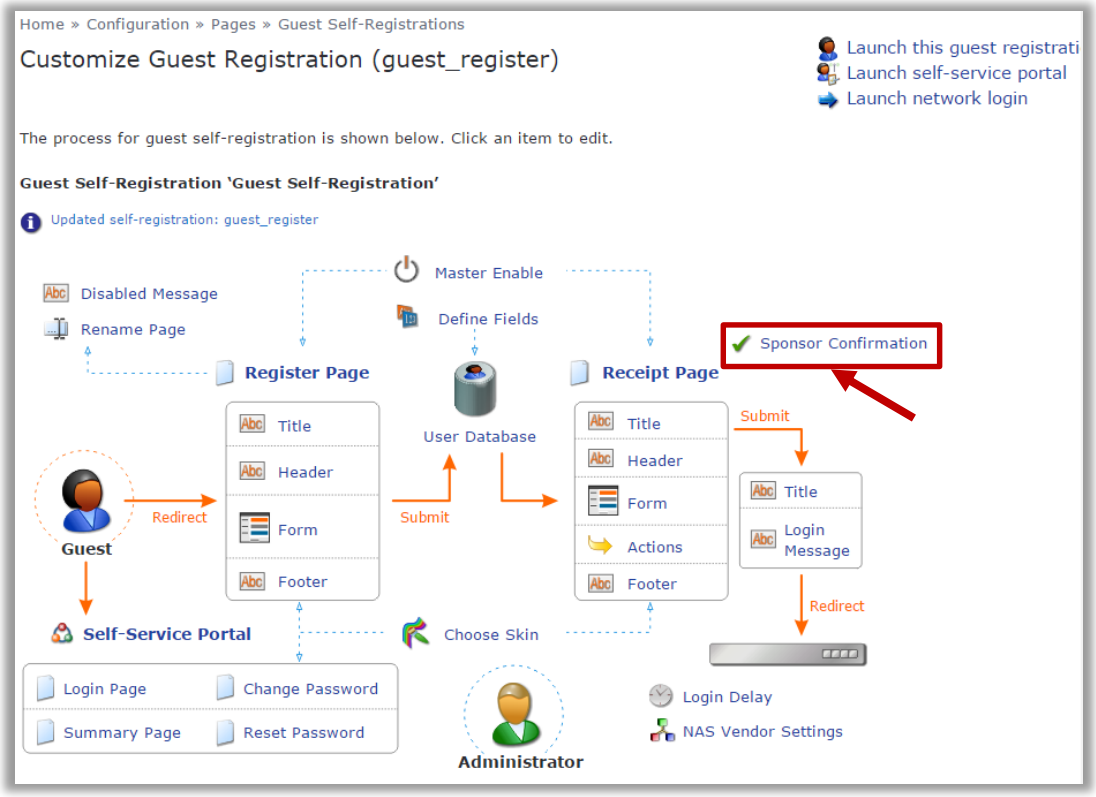
Step 4 – Enable Guest Registration and Sponsor Confirmation

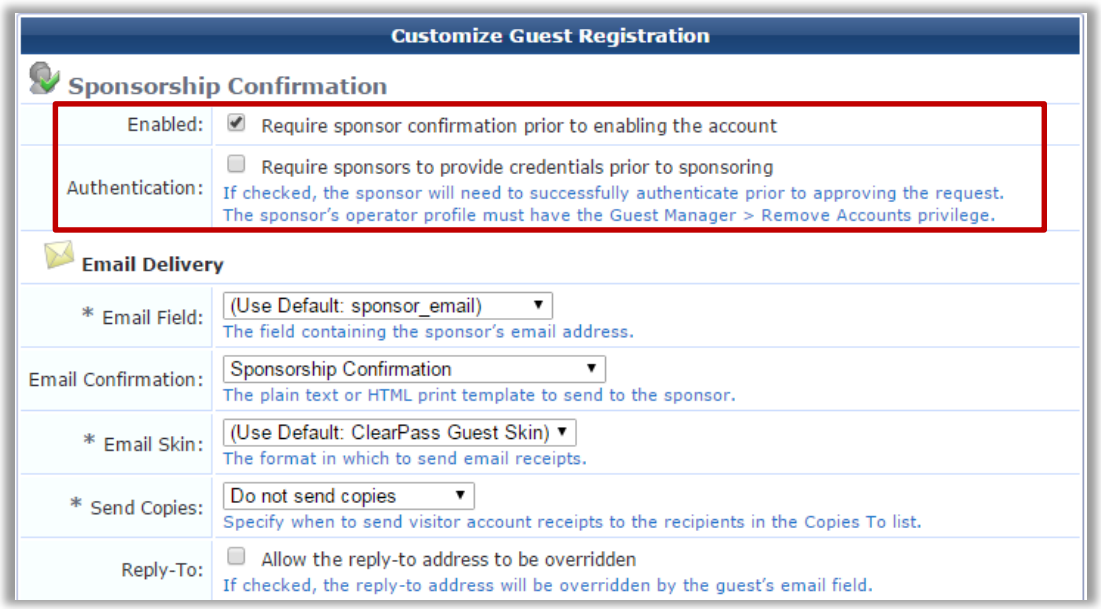
It is also necessary to globally enable guest registration, as well enforce sponsor confirmation for each guest user account created.

Navigate to ***Configuration → Guest Self-Registraion → Edit Guest Registration*** template:

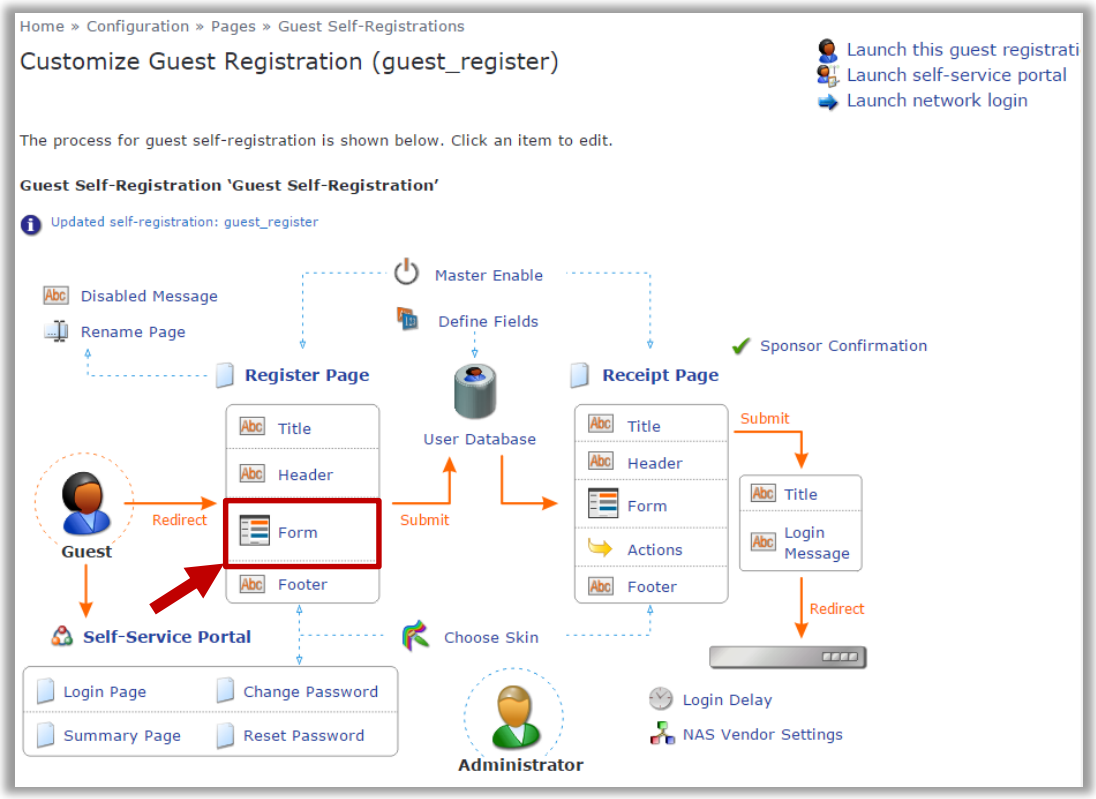


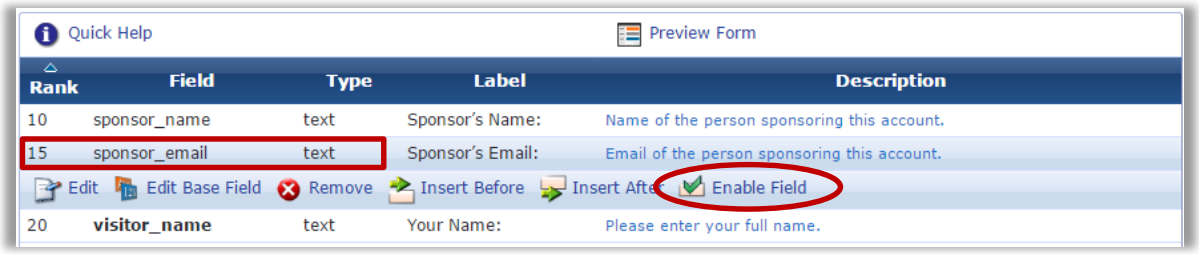






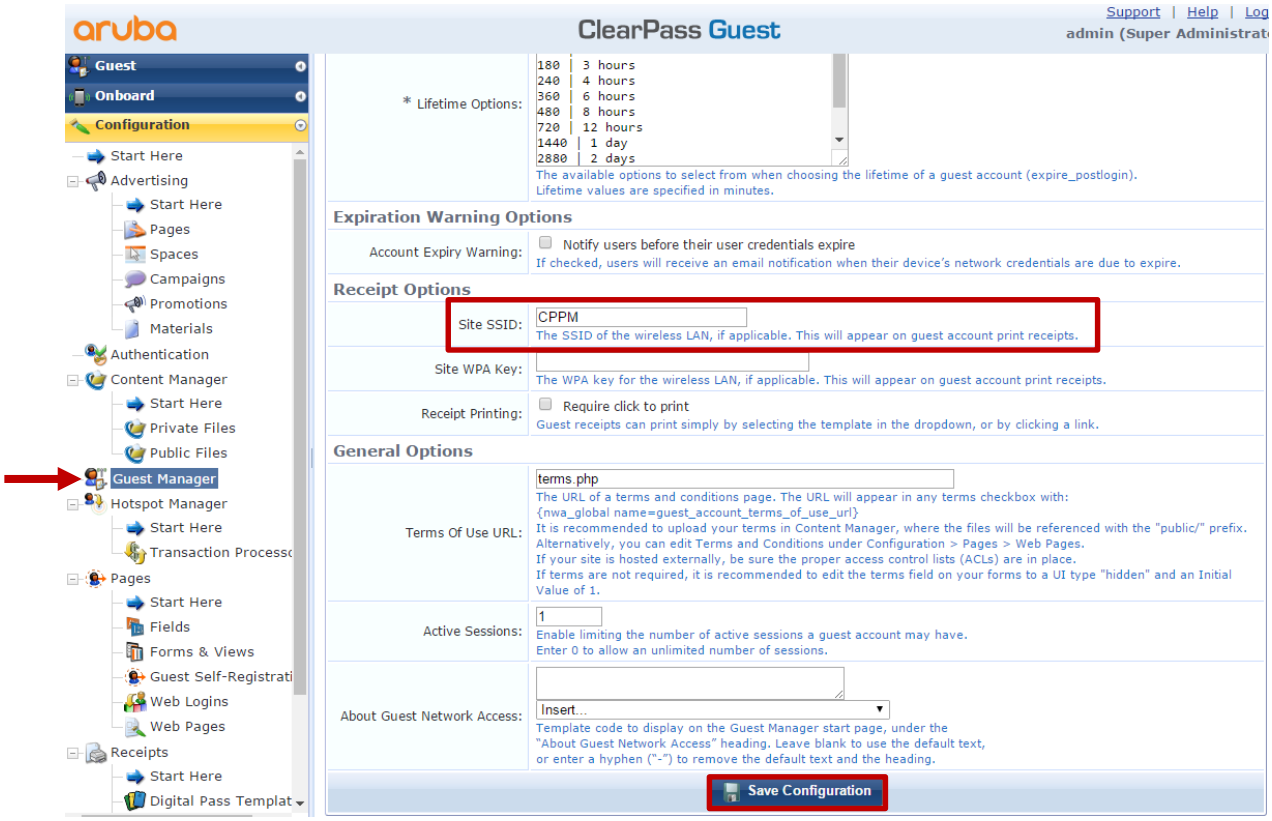
Enable Sponsor Email field for the Self Registration Page:





Step 5 – Change default Guest Receipt format

Under Guest UI view navigate to ***Configuration → Guest Manager***. Change default Site SSID to the one currently used in production:



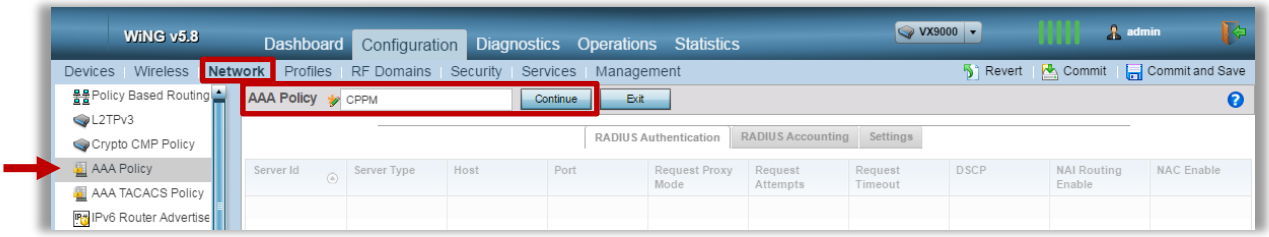
Part 2 – Configuring WiNG to Authenticate Guests to Aruba ClearPass

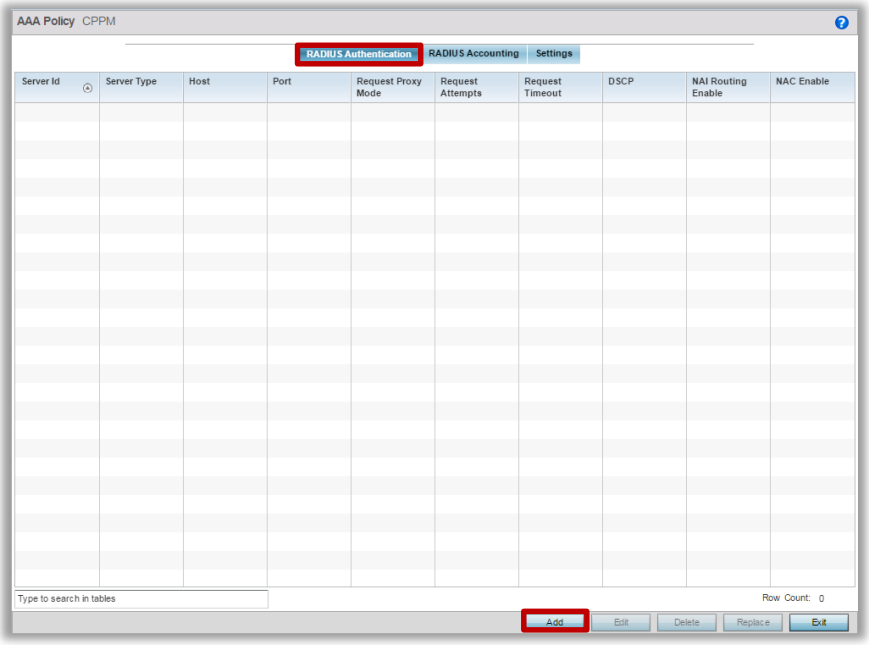
The configuration of ExtremeWireless WiNG consists of the following steps:

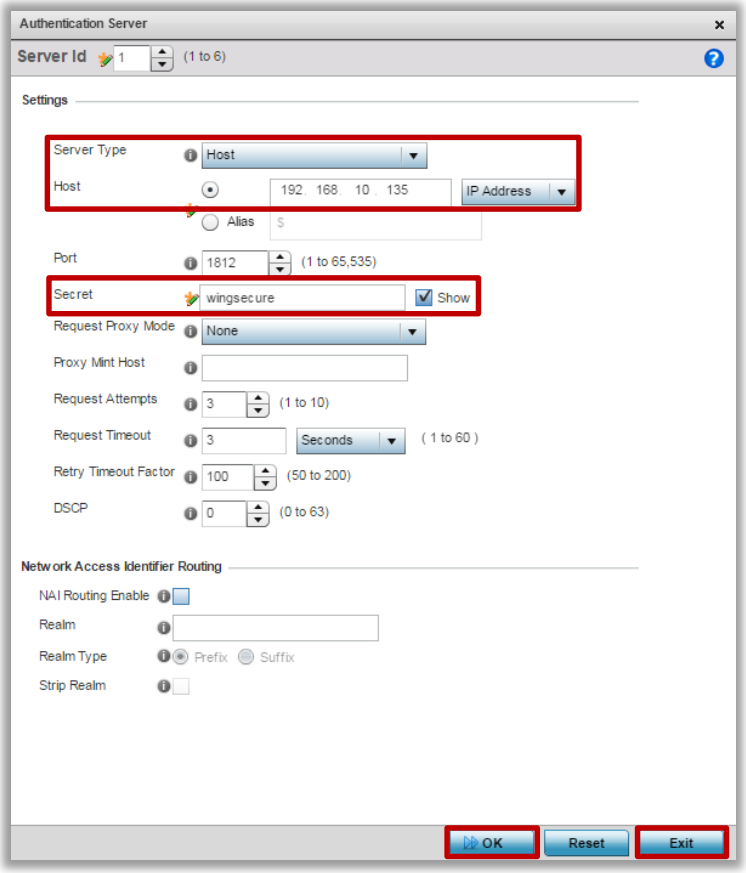
1. Configure AAA Policy to specify CPPM as Authentication Server.
2. Configure WiNG Captive Portal to redirect guests to CPPM pages.
3. Create Guest Wireless LAN.
4. Assign WLAN to Access Point Profile.
5. Allow Guest VLAN on the AP GE1 port.
6. Assign Captive Portal Server to the AP Profile.

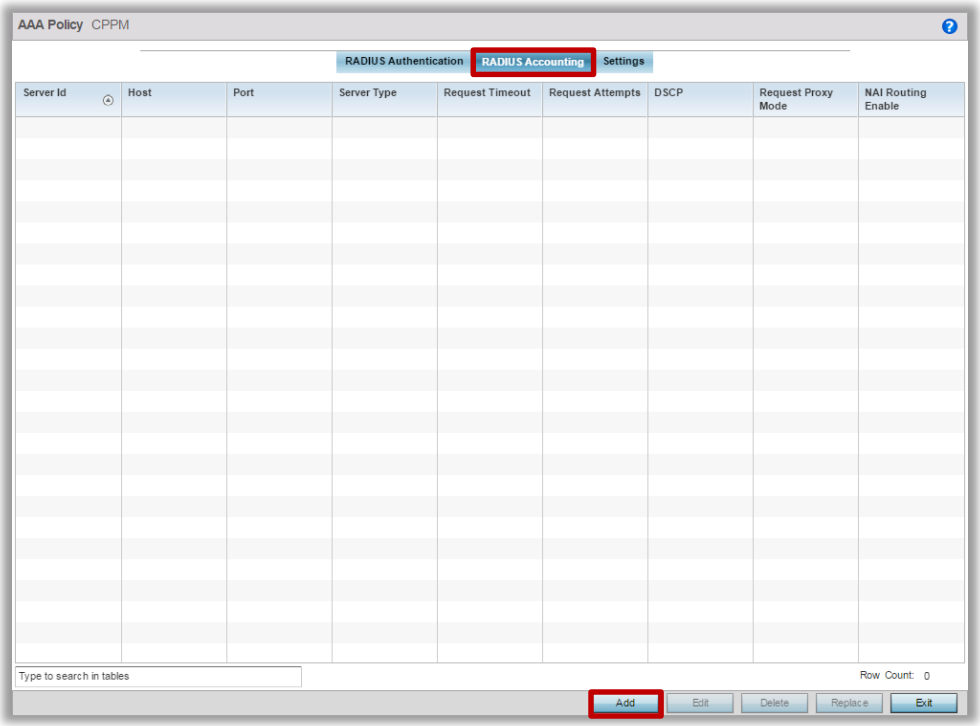
Step 1 – Configure AAA Policy

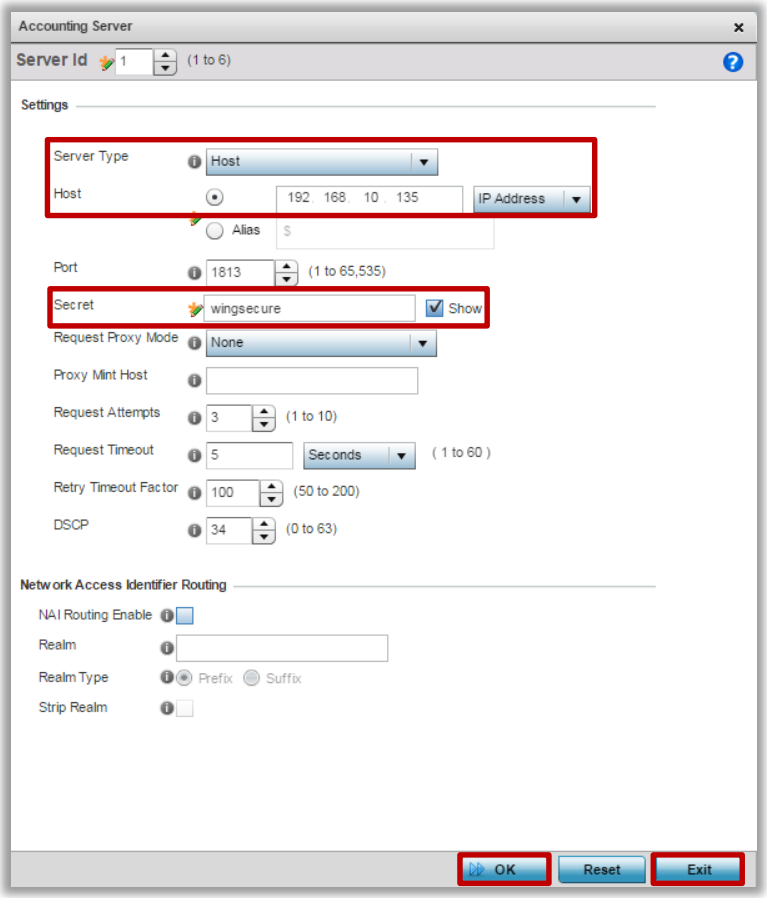
Navigate to ***Configuration → Network → AAA Policy → Add***:

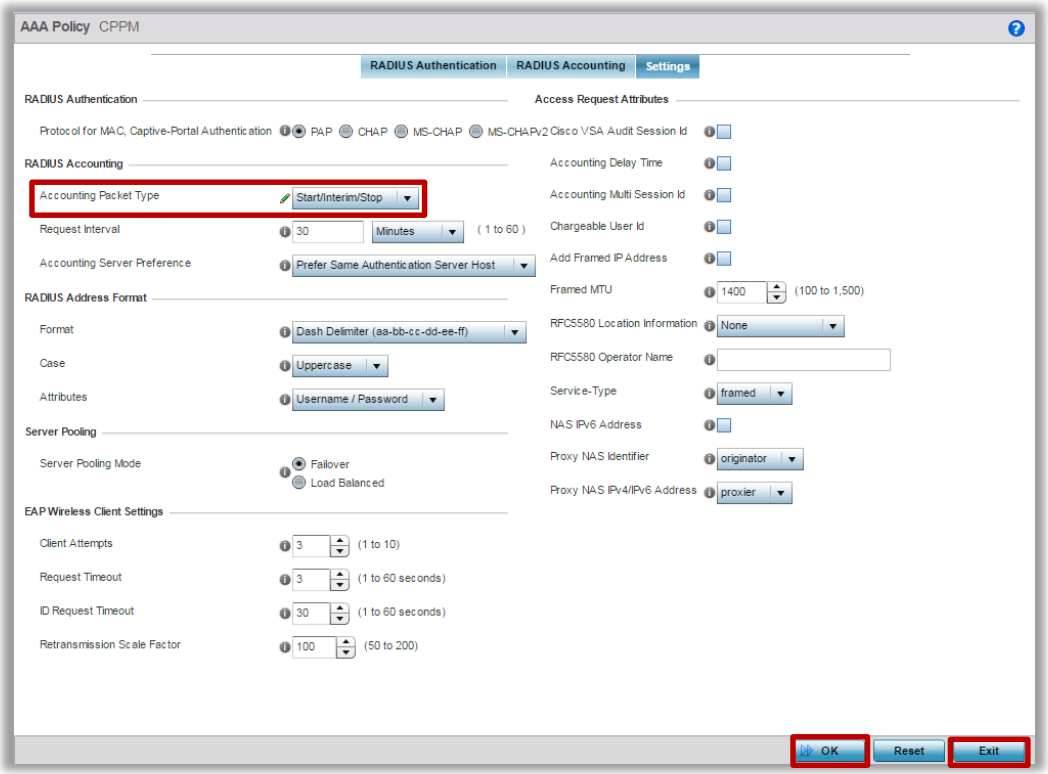






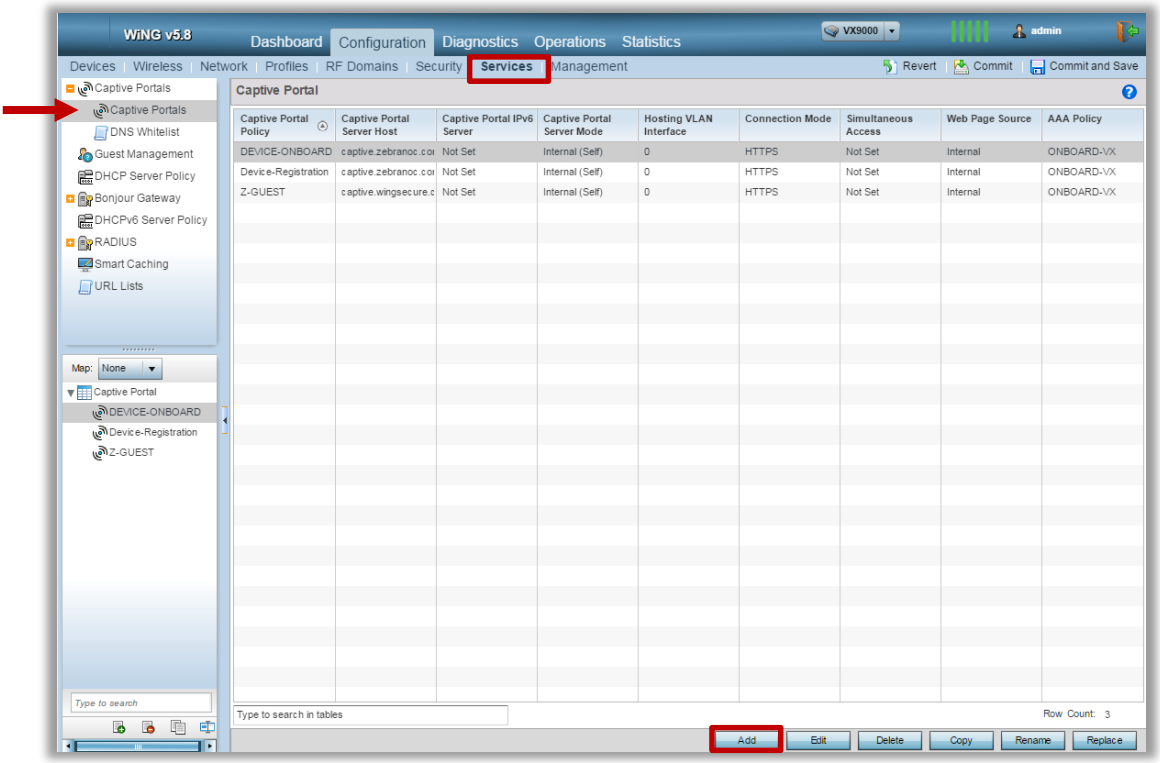


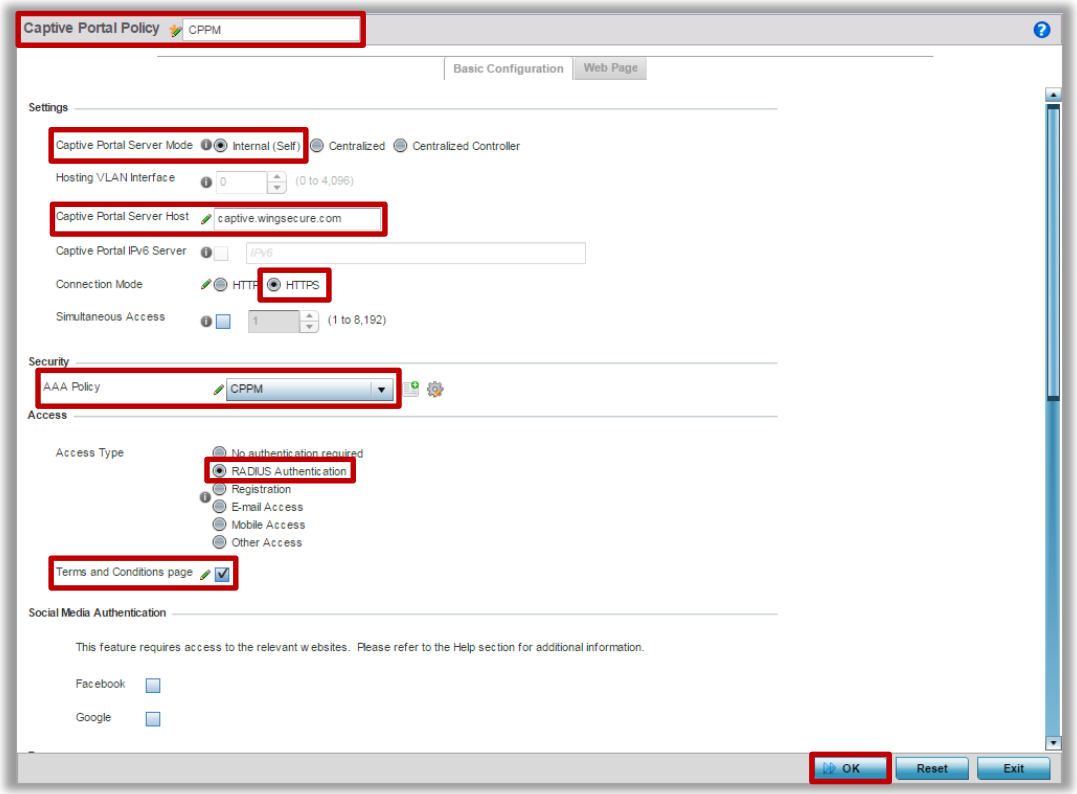


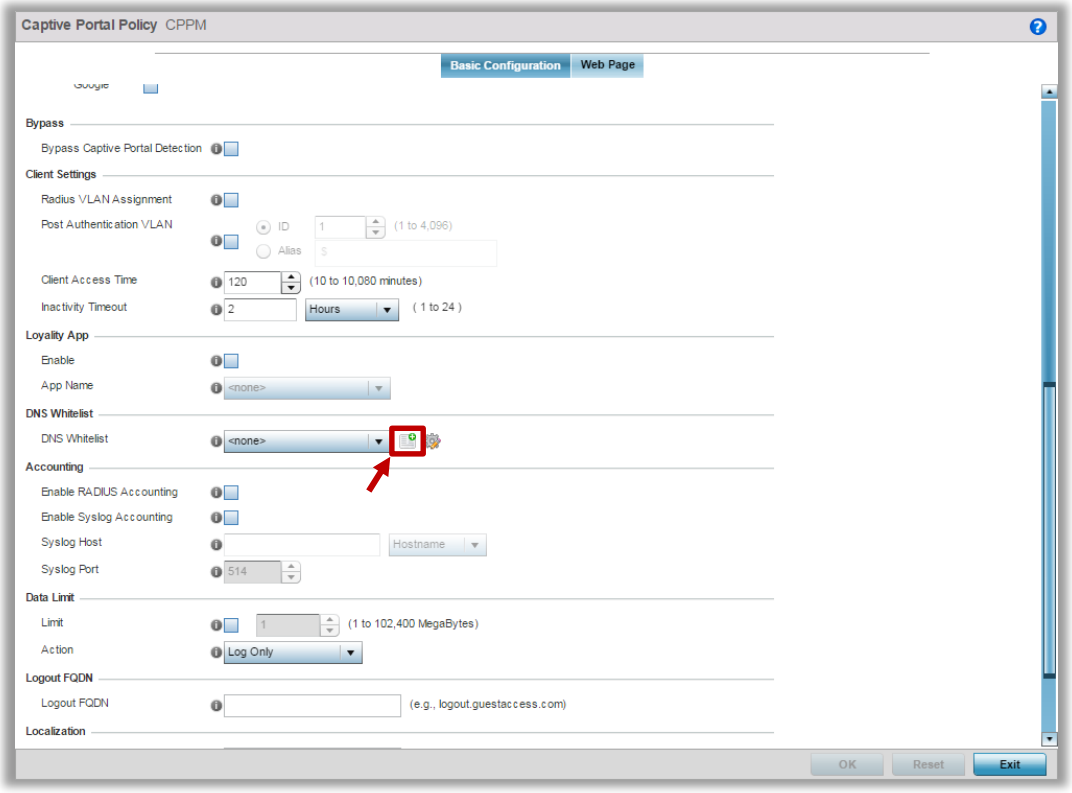


Step 2 – Configure WiNG Captive Portal

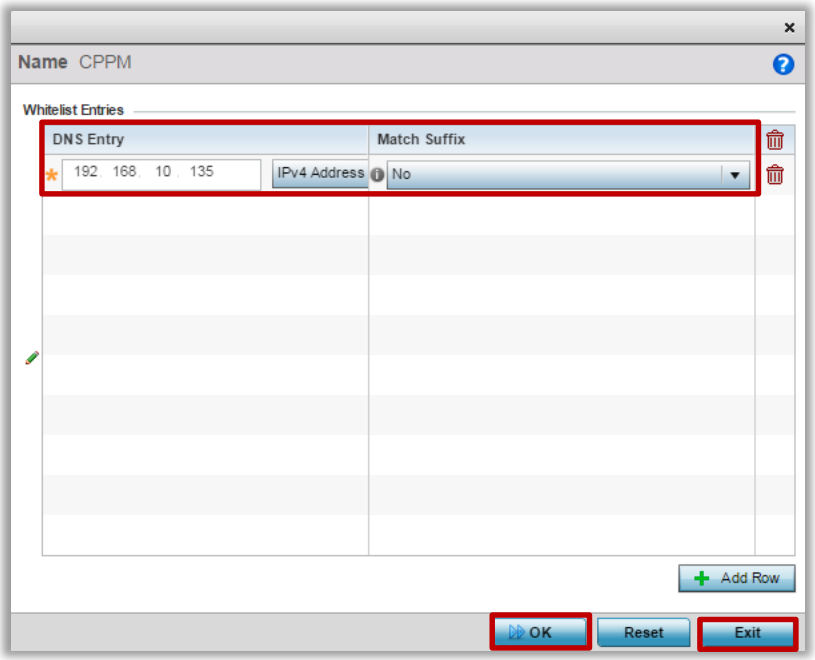
Navigate to ***Configuration → Services → Captive Portals***. Create new Captive Portal Policy to redirect Guests to CPPM server:

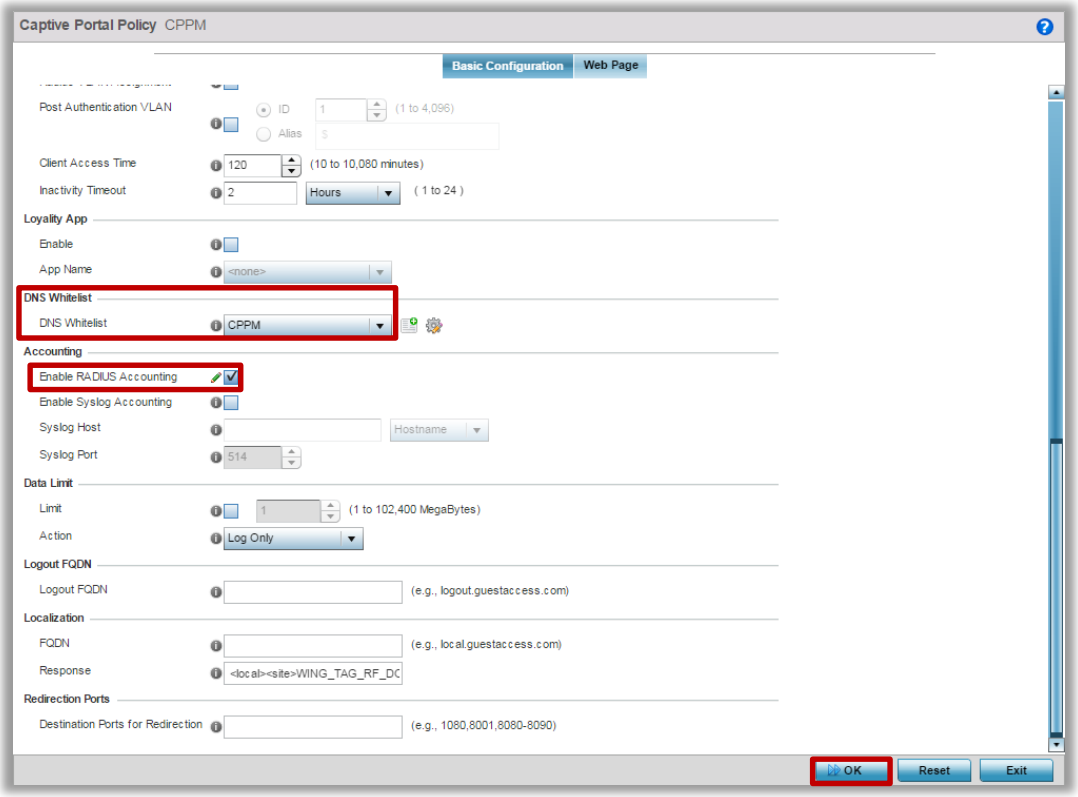


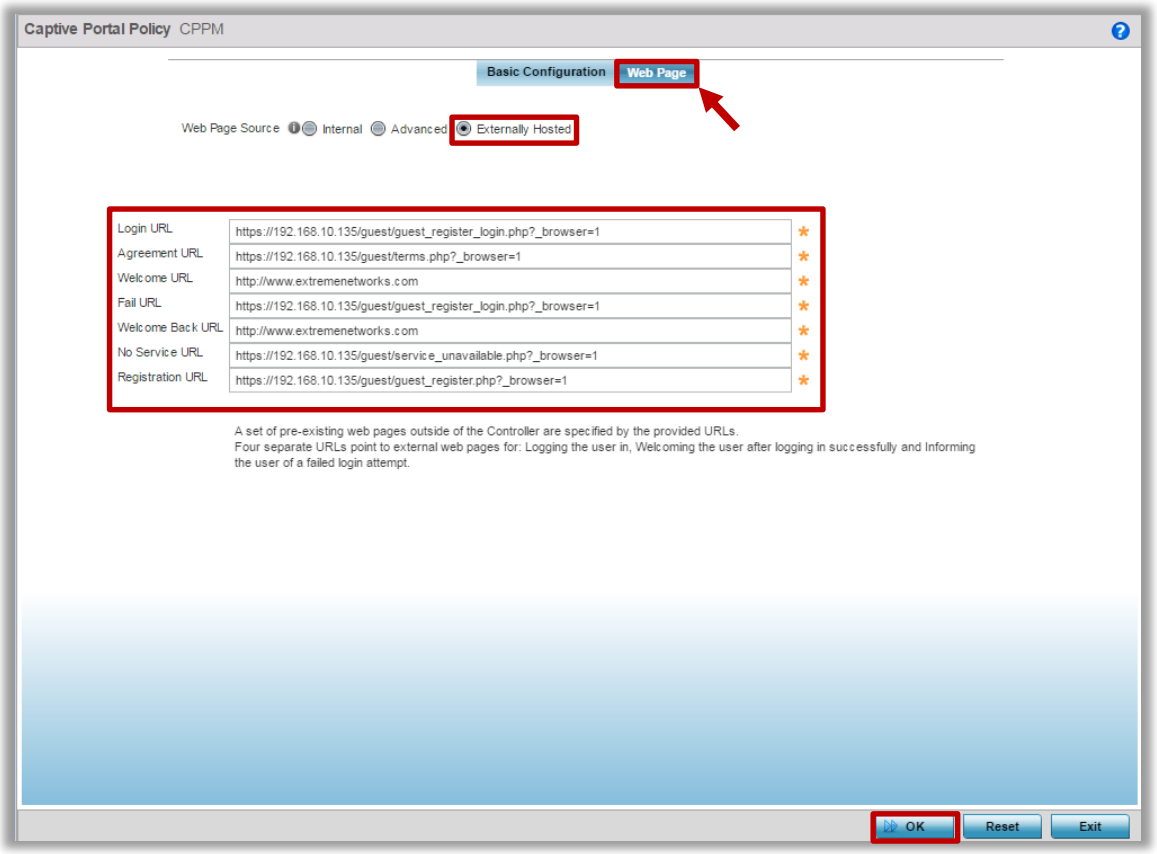




Permit IP address or FQDN of the CPPM server in the DNS whitelist to allow client communication for initial registration and login:

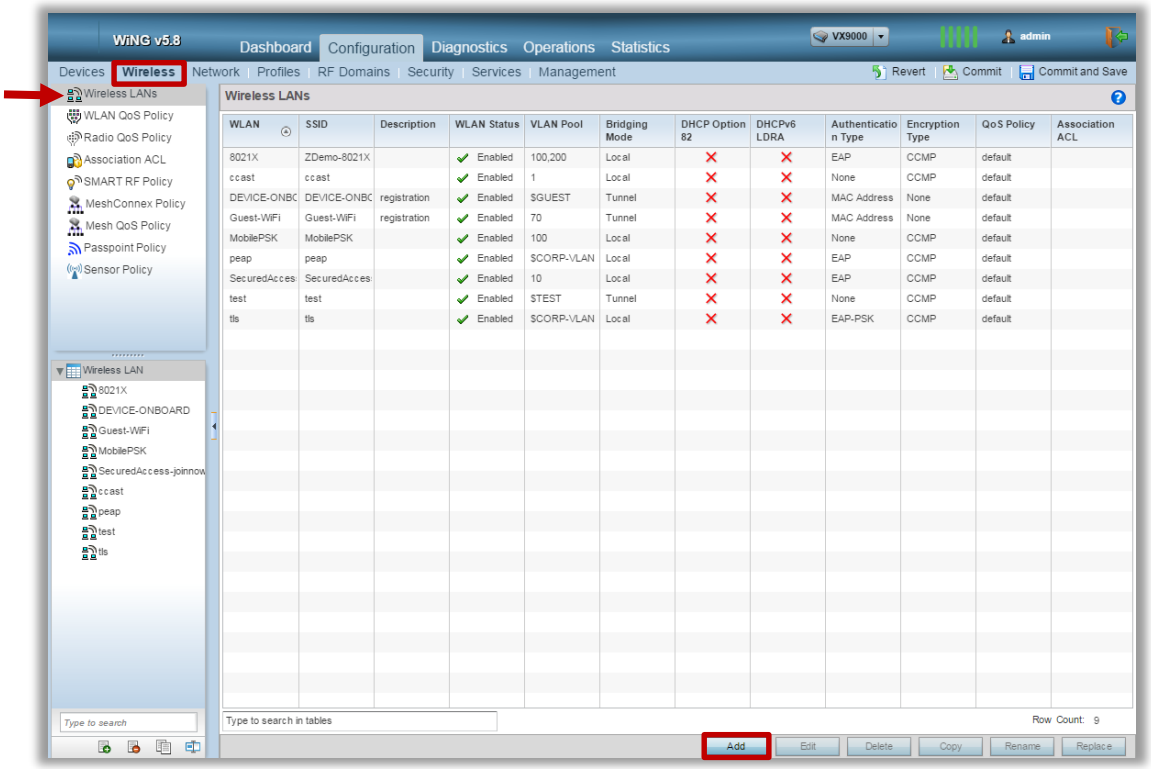


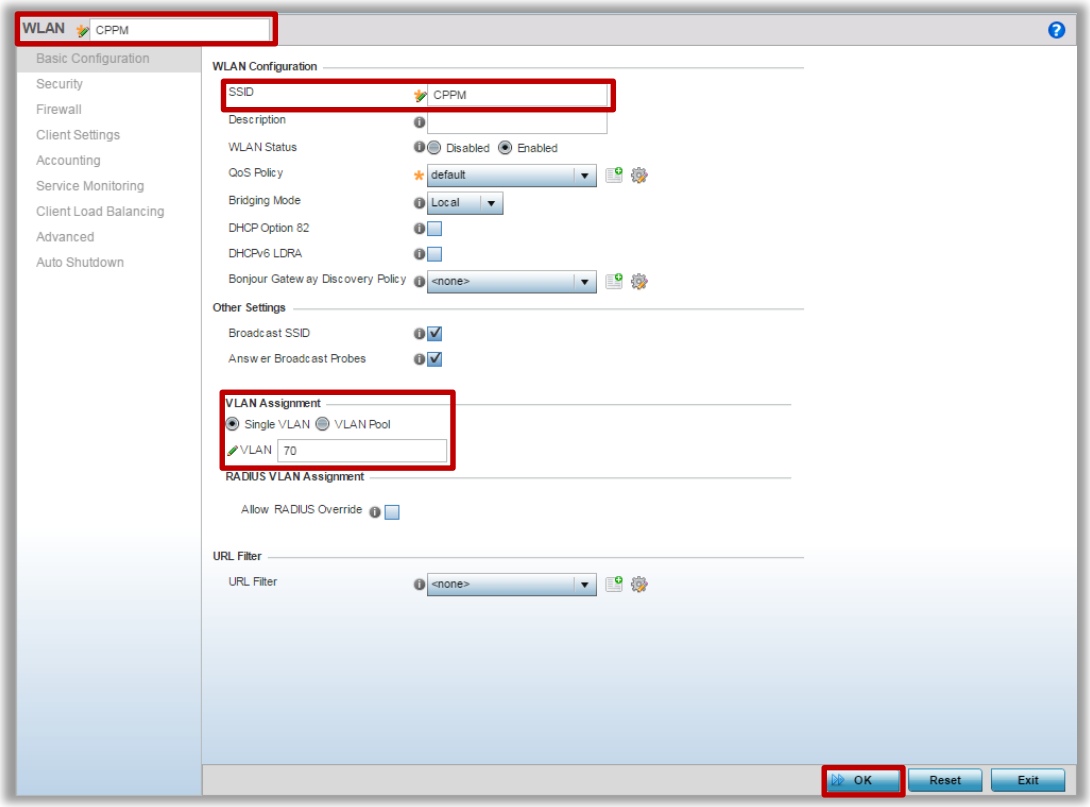


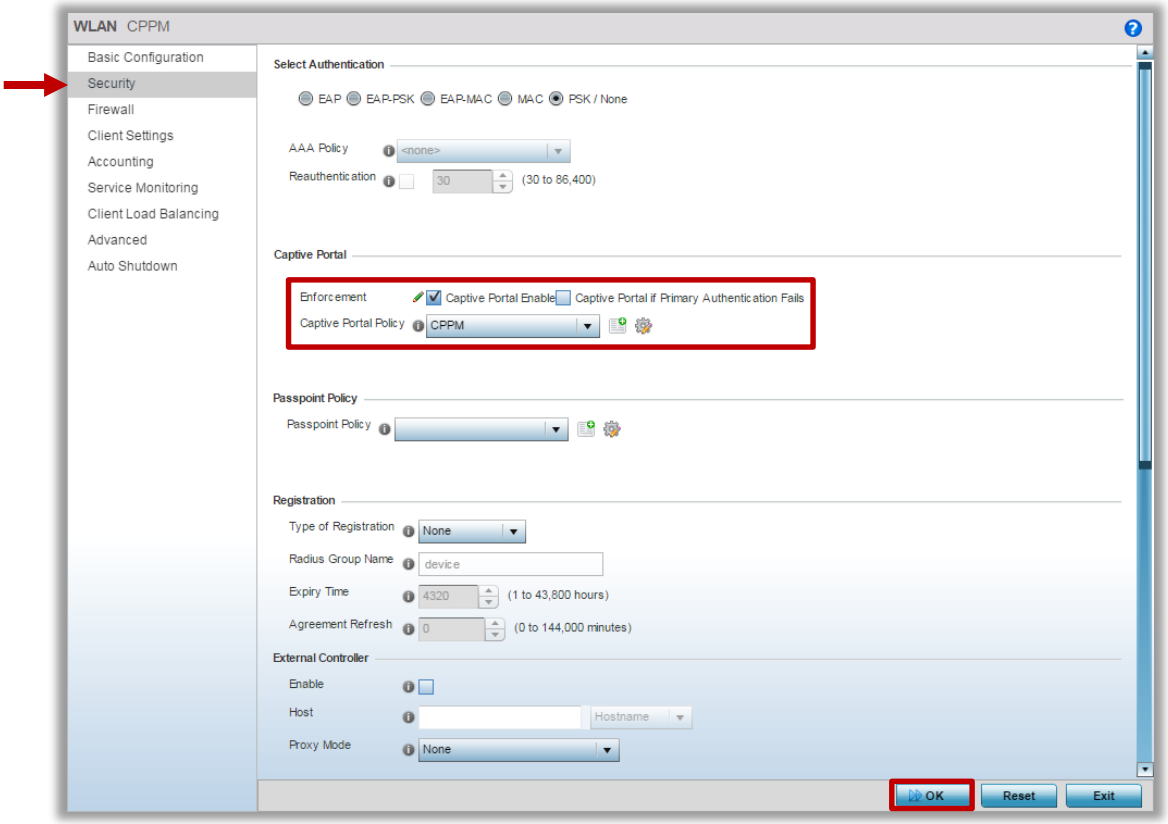


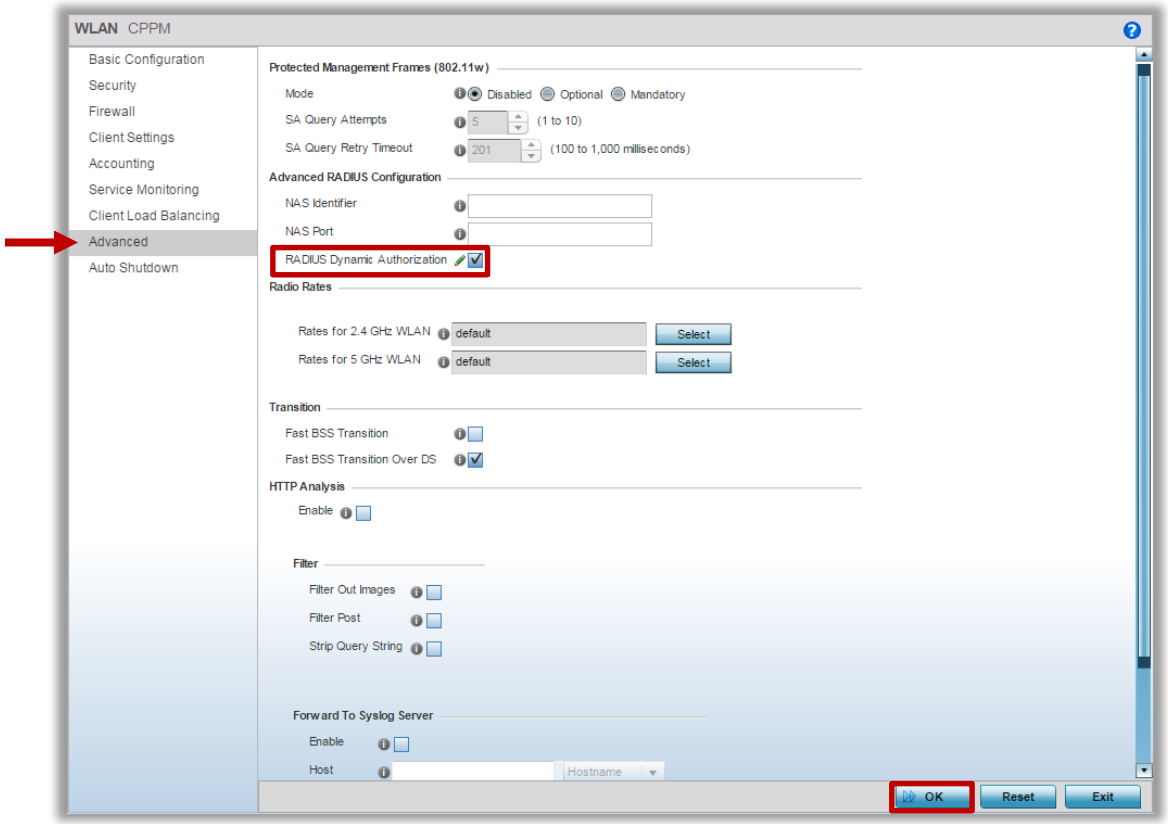
Step 3 – Create Guest Wireless LAN

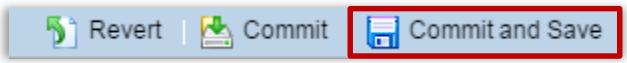
Navigate to ***Configuration → Wireless → Wireless LANs***. Create a new Wireless LAN for Guest Users:





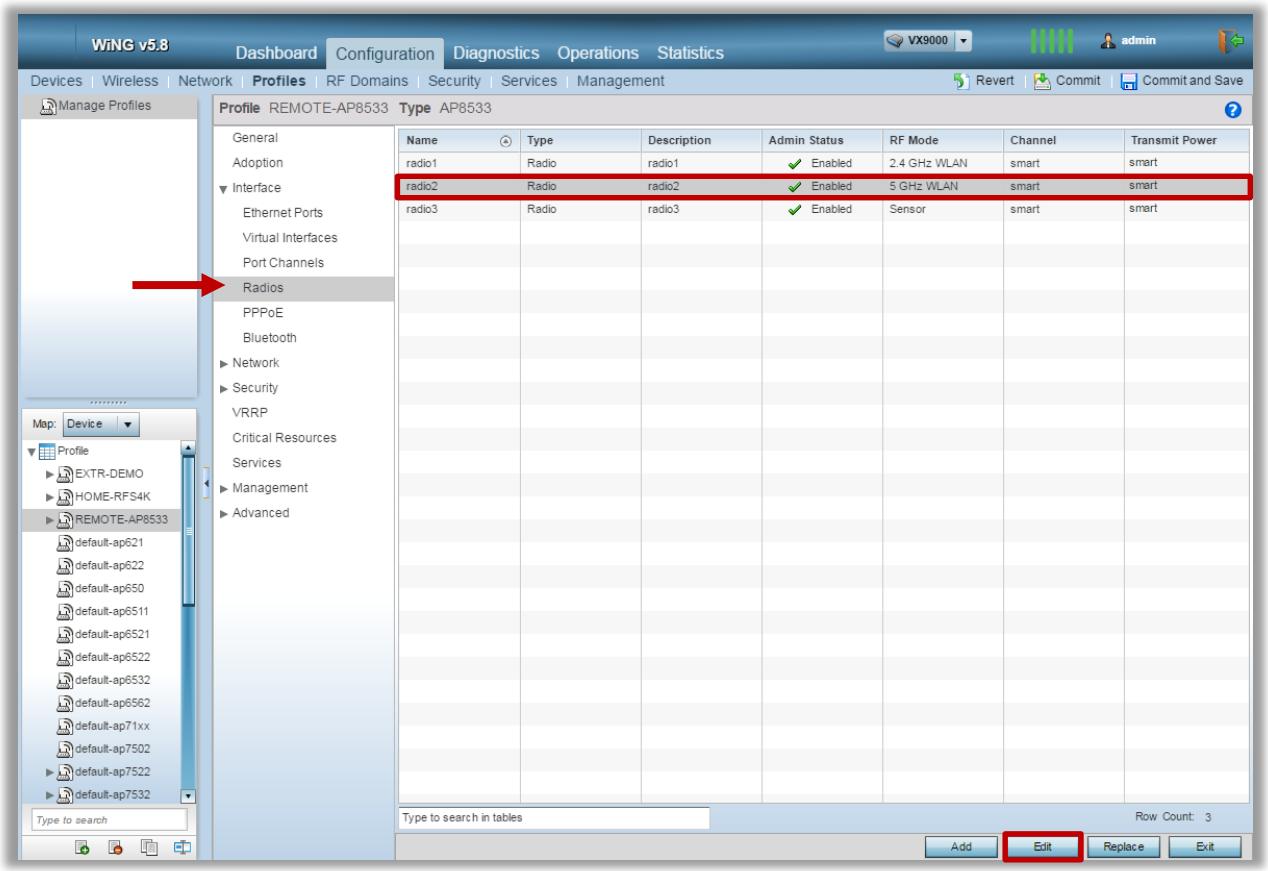


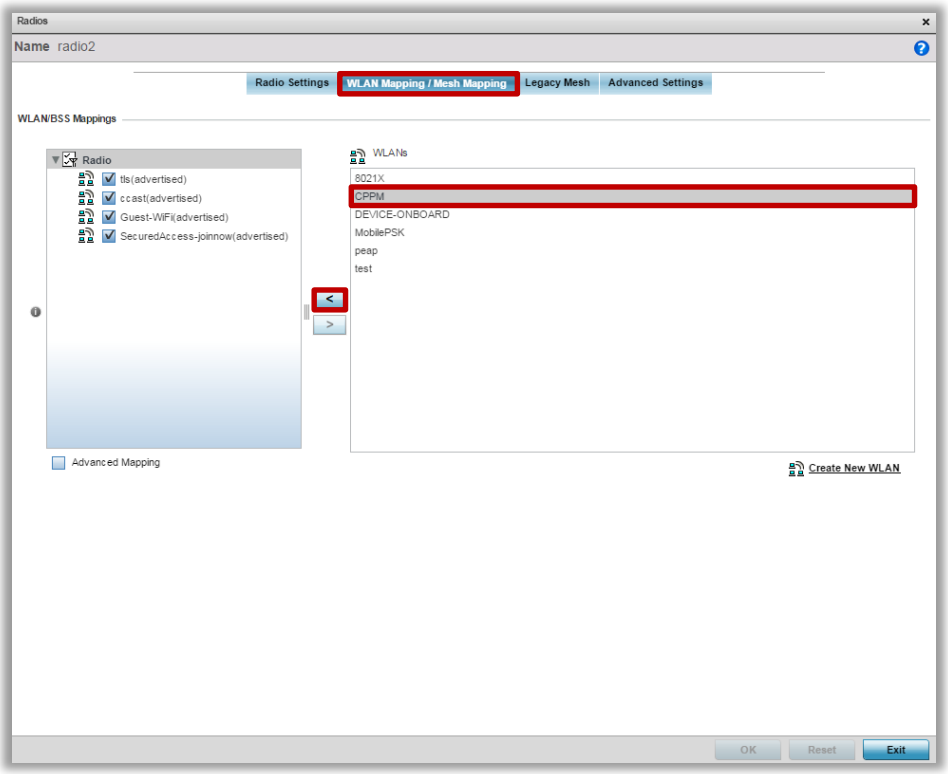


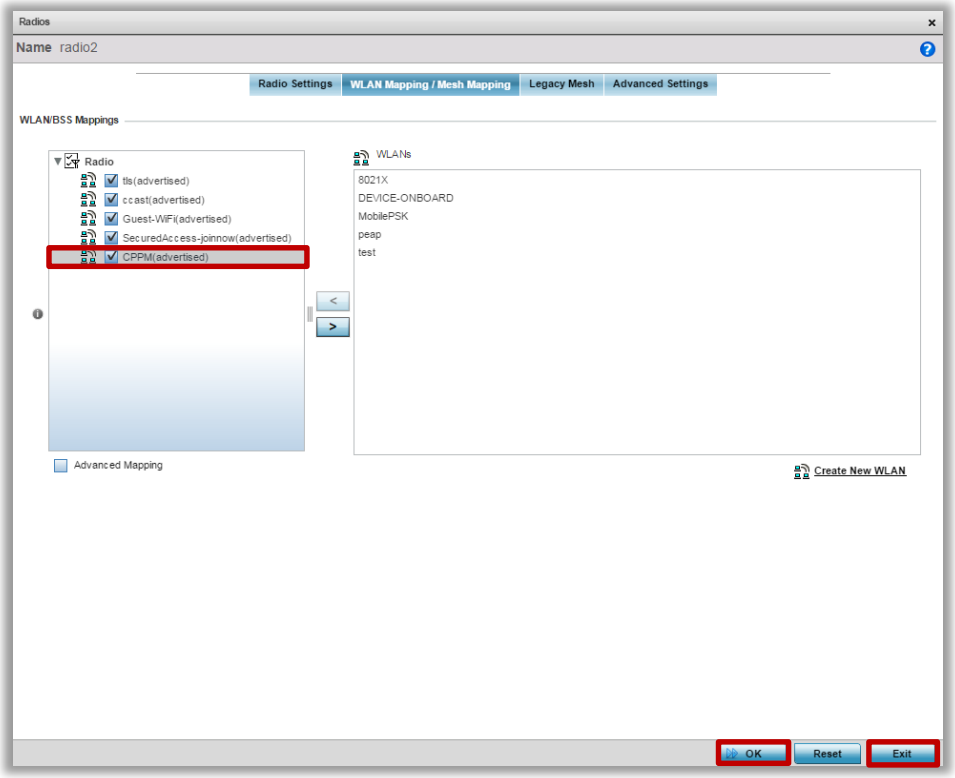


Step 4 – Assign WLAN to the Access Point Profile

Go to ***Configuration → Profiles → <Select AP Profile> → Edit → Interface → Radios → Edit***:

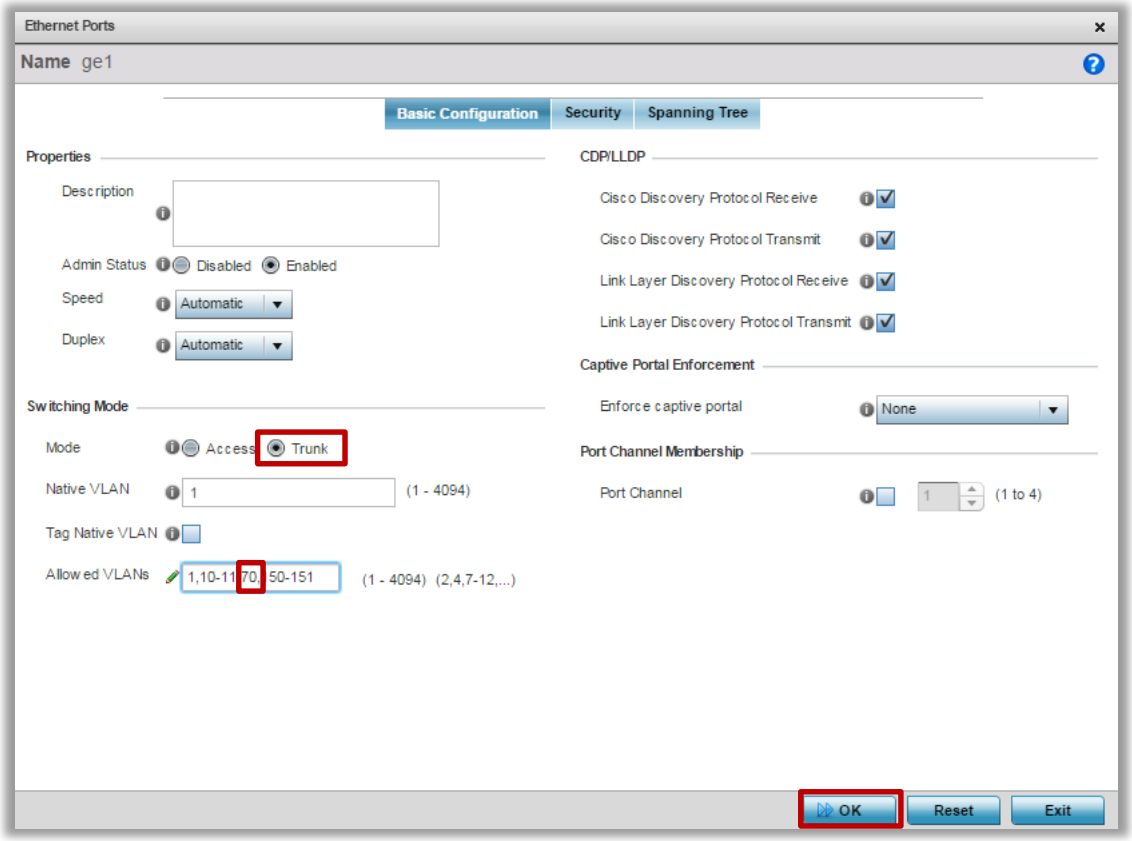


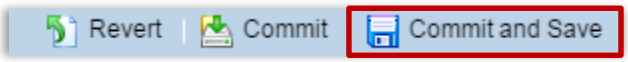




Step 5 – Allow Guest VLAN on the GE1 port of the Access Point Profile

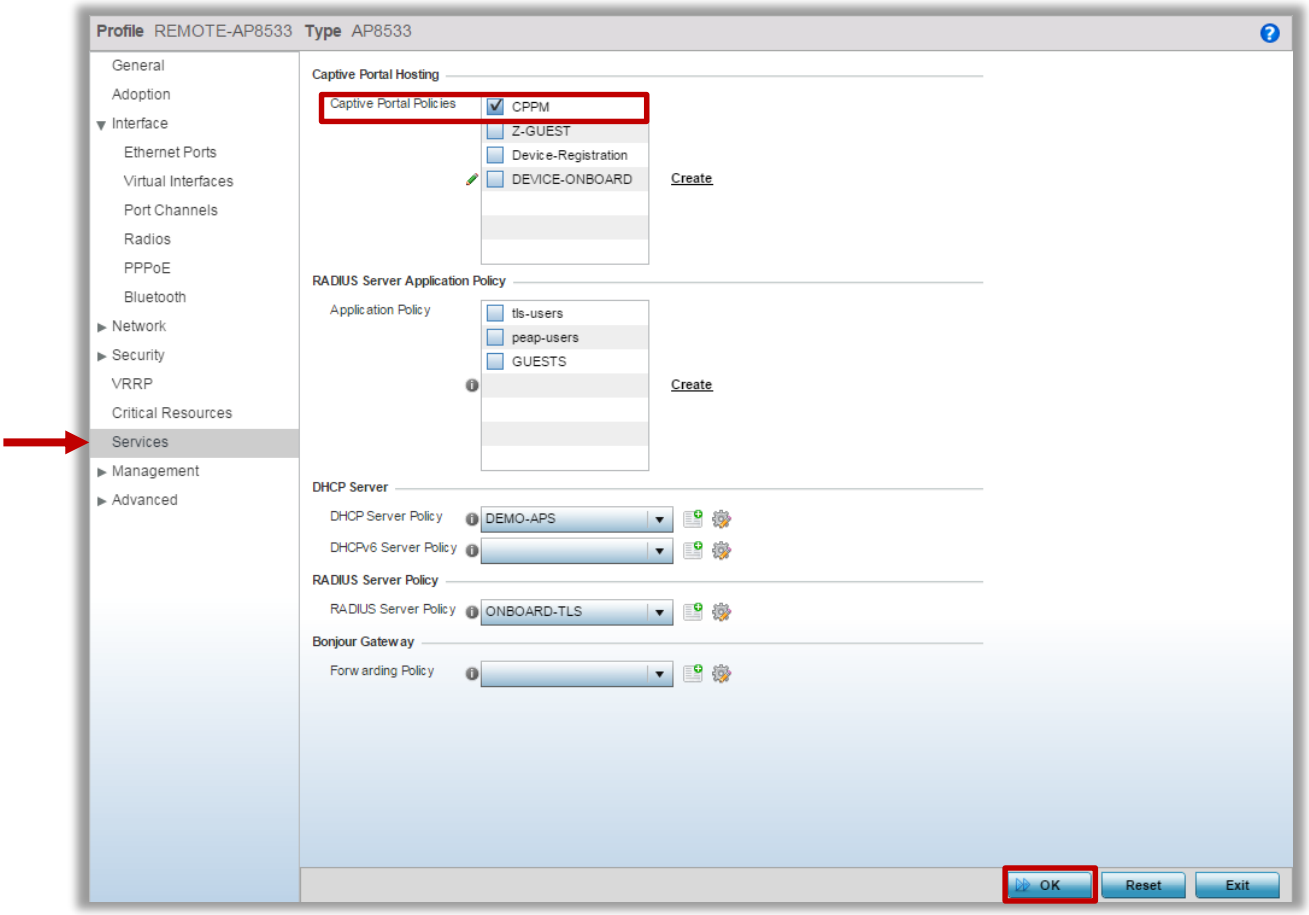
Within the Access Point Profile navigate to ***Interface → Ethernet Ports → ge1 → Edit***:

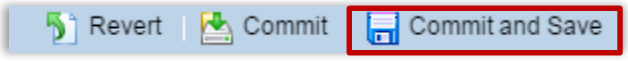




Step 6 – Assign Captive Portal Policy to the Access Point Profile

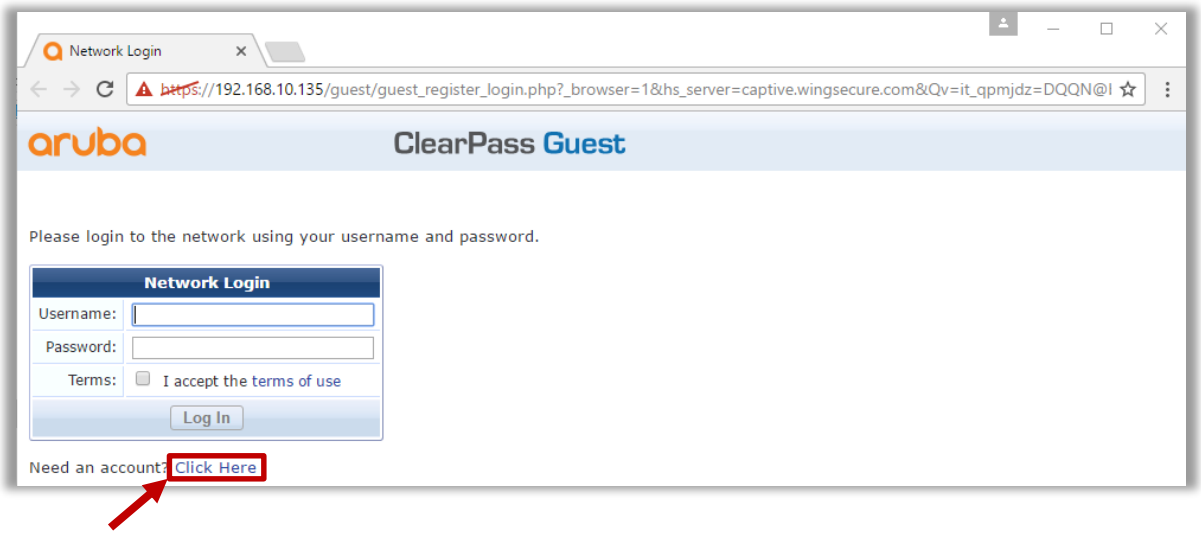
Inside the AP Profile go to ***Services*** and assign Captive Portal Policy in order to start the hotspot service:



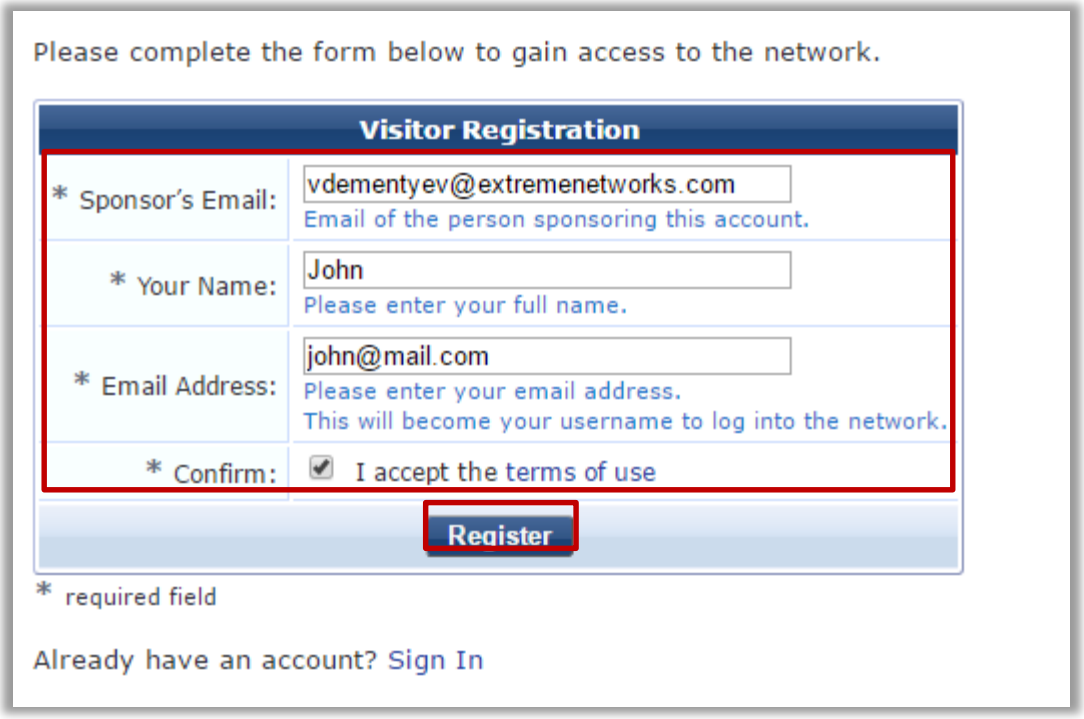


Part 3 - Validation

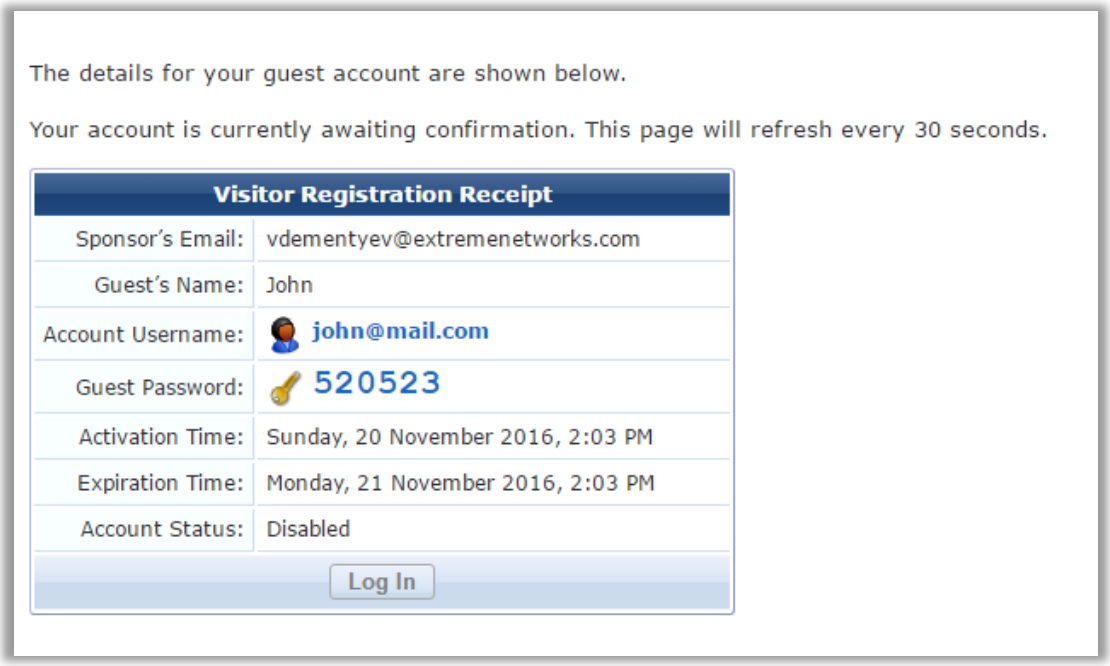
Validation is performed by associating a client device to the Guest SSID and verifying that a network connectivity is established. Upon association automatic popup should appear redirecting to the ClearPass Login page:



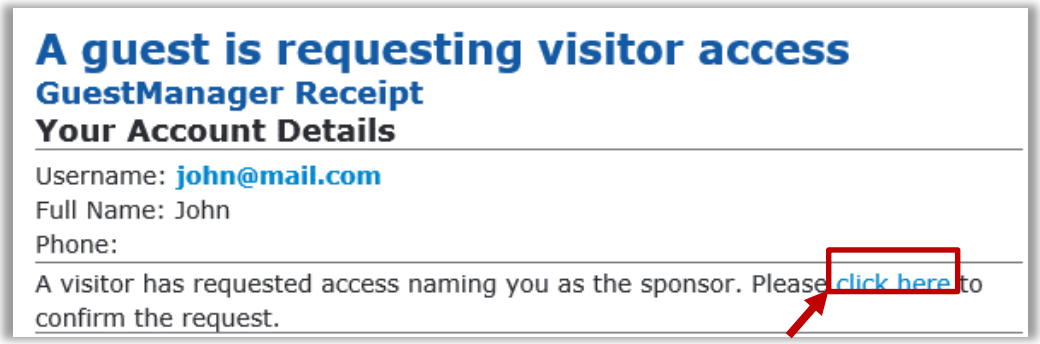
Guest needs to register using the registration form and provide a Sponsor Email Address:

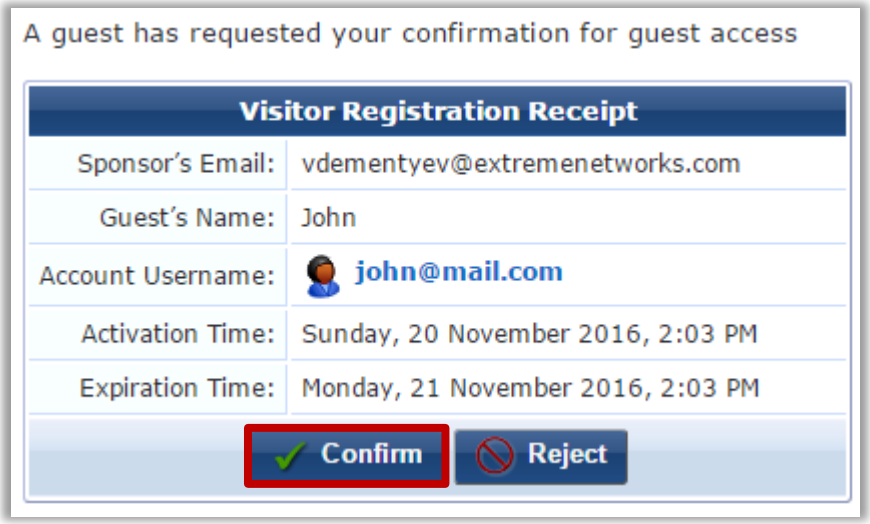


After the registration the auto generated Username and Password will appear on the Receipt Page, however the "***Log In***" button will be grayed out before Sponsor approves an account:

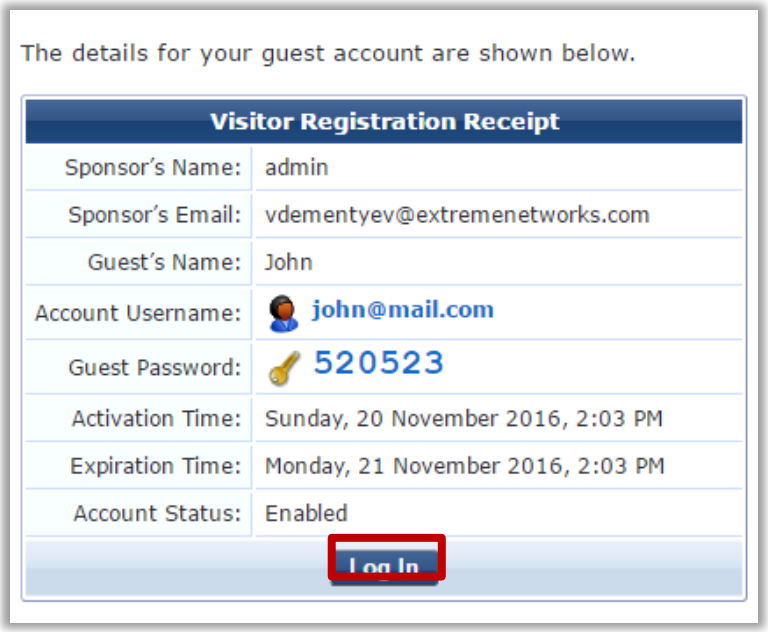


A sponsor will meanwhile receive an approval request via Email:

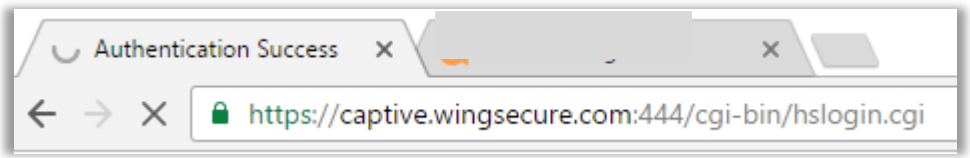


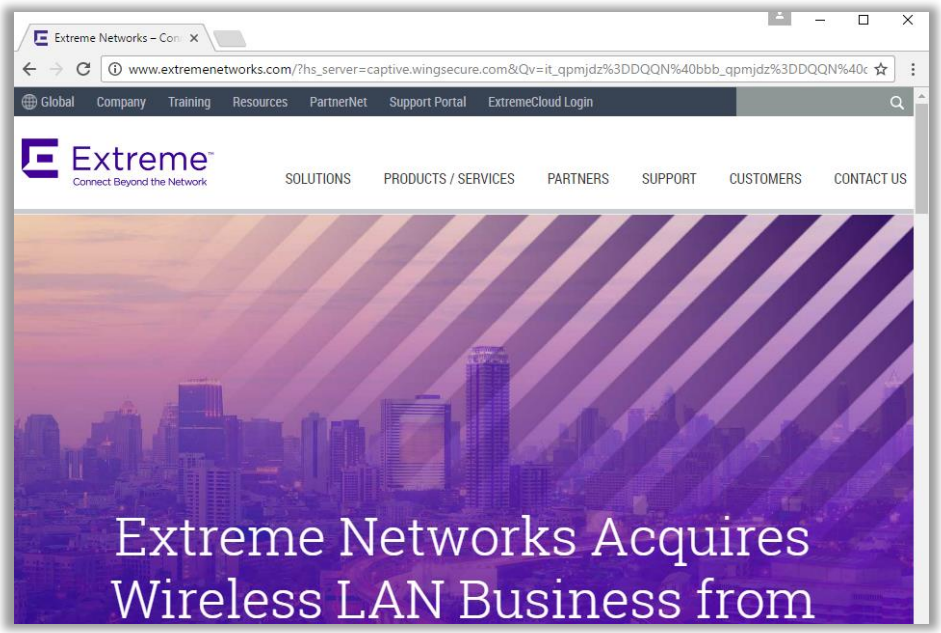


After Sponsor will confirm Guest Registration "***Log In***" button will become active for the Guest and additonal notification will be sent out:

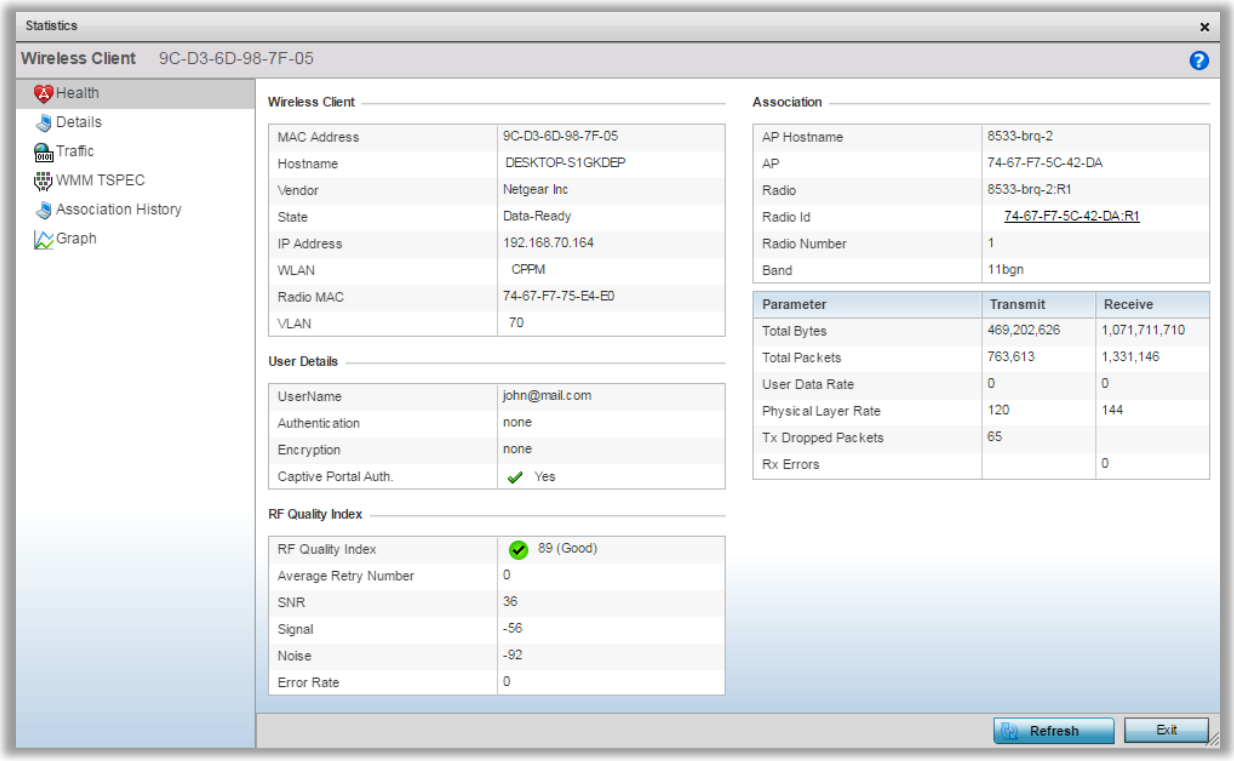


After clicking "***Log In***" client will automatically submit username and password and will send an HTTPS POST to WiNG Captive Portal, so an Access Point will initiate a RADIUS request to CPPM. After Successful authentication client will be redirected to the Welcome Page configured on the Captive Portal:

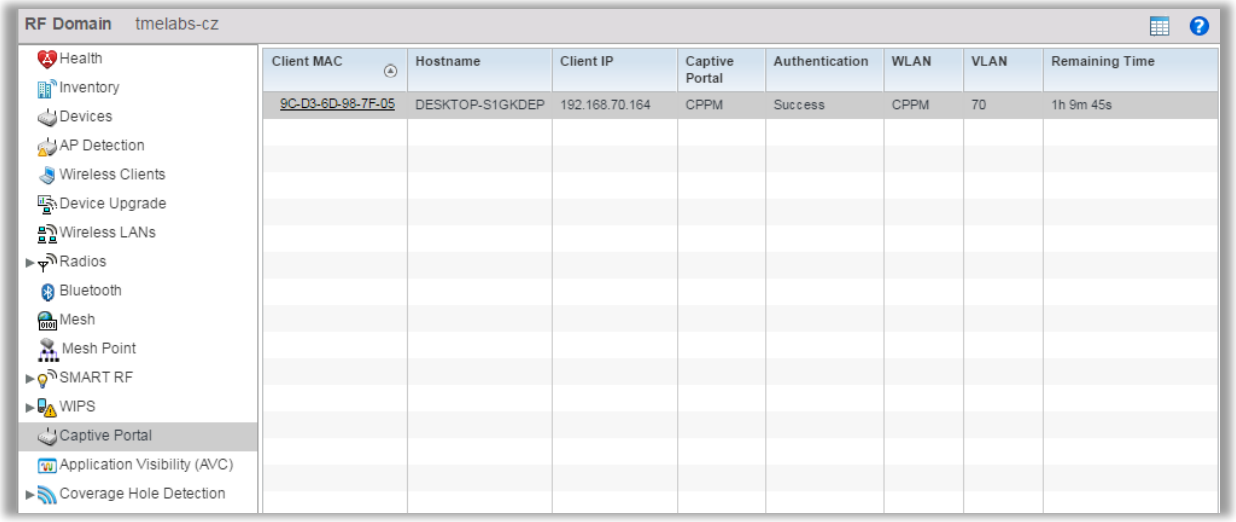




On WiNG Client Statistics (***Statistics → <RF Domain> → Wireless Clients → <Select Your Client>***) you can see current Captive Portal authentication state and guest username:



It is also possible to see current active Captive Portal sessions under the RF Domain statistics:



Revision History

Date	Revision	Changes Made	Author
11/20/2016	1.0	Initial Revision	Viacheslav Dementyev