Configure Captive Portal on a WAP571 or WAP571E

Objective

A Captive Portal (CP) allows you to restrict access to your wireless network until wireless users have been verified. When a user opens a web browser, they are redirected to a login page where they must enter their username and password. Two types of users can be authorized to access your network; authenticated users, and guests. Authenticated users must provide a username and password that matches either a local database, or the database of a RADIUS server. Guests do not need to provide a username or password.

This article explains how to configure captive portal on your Wireless Access Point (WAP).

Applicable Devices

WAP500 Series - WAP571, WAP571E

Software Version

• 1.0.0.15 - WAP571, WAP571E

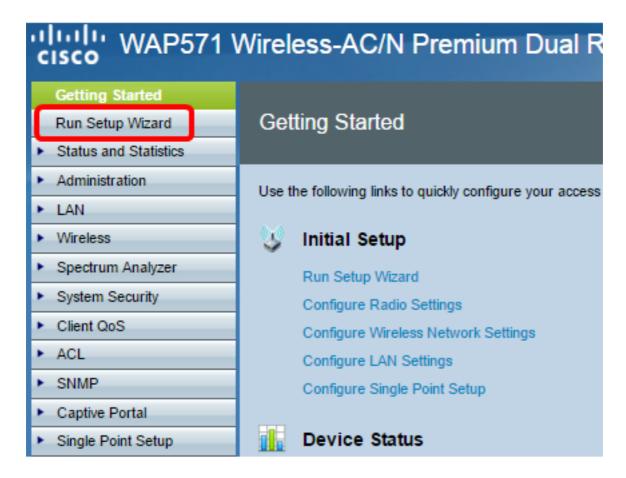
Configure Captive Portal

The basic settings of the Captive Portal can be set up through the setup wizard, while the advanced settings can be configured through the web-based utility. For fast and basic setup, you can use the setup wizard to enable the feature. See steps below:

Note: The images below are captured from WAP571.

Using the Setup Wizard

Step 1. Log in to the web-based utility and then click Run Setup Wizard.



Note: If this is the first time you are setting up your WAP, the setup wizard will automatically pop-up.

Step 2. Follow the instructions in the setup wizard screens. For a step-by-step configuration of your WAP using the setup wizard, click here for instructions.

Welcome

Thank you for choosing Cisco Systems, Inc. This setup wizard will help you install your Cisco Systems, Inc Access Point.

To setup this access point manually you can cancel this wizard at any time (Not recommended).



Note: This Setup Wizard provides simplified options to help you quickly get your access point up and running. If there is any option or capability that you do not see while running the setup wizard, click the learning link provided on many of the setup wizard pages. To set further options as you require or as seen in the learning link, cancel the setup wizard and go to the web-based configuration utility.

Click Next to continue



Step 3. Once the Enable Captive Portal – Create Your Guest Network screen appears, choose **Yes** then click **Next**.

Enable Captive Portal - Create Your Guest Network

Use Captive Portal to set up a guest network, which means that wireless users need to be authenticated before they can access the Internet. For example, a hotel can create a guest network to redirect new wireless users to a page for authentication.

Do you want to create your guest network now?

Yes
No, thanks.

Learn more about captive portal quest networks

Click **Next** to continue

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Next

Step 4. Enter the guest network name then click **Next**.

Note: The default Guest Network Name is ciscosb-guest.

Enable Captive Portal - Name Your Guest Network

Your guest network needs a new name, known as an SSID. The name identifies your guest network so that wireless users can find it.

Enter a name for your guest network:

Radio:

Radio 1 (5 GHz)

Radio 2 (2.4 GHz)

Guest Network name:

Ciscosb-guest

For example: MyGuestNetwork

Parent more about network names

Click Next to continue

Next

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Step 5. Choose a security type for your wireless guest network.

Note: Best security (WPA2 Personal - AES) is chosen as an example below.

Enable Captive Portal - Secure Your Guest Network

Select your guest network security strength.

- Best Security (WPA2 Personal AES) Recommended for new wireless computers and devices that support this option. Older wireless devices might not support this option.
- Better Security (WPA/WPA2 Personal TKIP/AES)
 Recommended for older wireless computers and devices that might not support WPA2.
- No Security (Not recommended)

Step 6. Enter your security key then click **Next**.

Select your guest network security strength. Best Security (WPA2 Personal - AES) Recommended for new wireless computers and devices that support this option. Older wireless devices might not support this option. Better Security (WPA/WPA2 Personal - TKIP/AES) Recommended for older wireless computers and devices that might not support WPA2. No Security (Not recommended) Enter a security key with 8 - 63 characters. Strong Show Key as Clear Text Learn more about your network security options Click Next to continue

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Next

Step 7. Enter a VLAN ID for your guest network then click **Next**.

Enable Captive Portal - Secure Your Guest Network

Enable Captive Portal - Assign The VLAN ID

We strongly recommend that you assign different VLAN ID for your guest network than the management VLAN ID. By doing that, your guest will have no access to your private network.

Enter a VLAN ID for your guest network:

VLAN ID:	1	Range: 1 - 4094)	
Learn more ab	out vlan ids		
Click Next to d	continue		
Olicit Hext to t	Johando		
		Back	Next

Step 8. (Optional) If you have a specific web page you want to show after users accept the terms of service from the welcome page, check the **Enable Redirect URL** check box. Enter the URL and then click **Next**.

Note: The URL can be your company website.

If you enable a redirect URL, when new wireless users have completed the authentication process, they can be redirected to an alternate startup page. In the process of t

Next

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Step 9. Review and confirm your settings and then click **Submit**.

Click Next to continue

Summary - Confirm Your Settings Security Key: Cisco1234\$ VLAN ID: Radio 2 (2.4 GHz) Network Name (SSID): ciscosb Network Security Type: WPA2 Personal - AES ****** Security Key: VLAN ID: Captive Portal (Guest Network) Summary Guest Network Radio: Radio 1 Network Name (SSID): ciscosb-guest Network Security Type: WPA2 Personal - AES Security Key: Verification: Guest Redirect URL: https://cisco.com Click Submit to enable settings on your Cisco Systems, Inc Access Point

Step 10. Once the Device Setup Complete screen appears, click **Finish** to close the setup wizard.

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Submit-

Device Setup Complete

Congratulations, your access point has been set up successfully. We strongly recommend that you save these settings by writing them down or by copying and pasting them into a text document. You will need these settings later when you add other wireless computers or devices to your network.



You should now have configured the basic settings of the Captive Portal feature of your WAP.

Using the Web-based Utility

To configure the advanced settings of the captive portal on the WAP, you must follow several steps:

Globally Enable the Captive Portal — This allows captive portals to take effect.

Create a Captive Portal Instance — A captive portal instance is a set of parameters that controls how a user logs on to a virtual access point (VAP).

Associate a Captive Portal Instance with a VAP — Users who attempt to access the VAP have to follow the parameters that are configured for the instance.

Customize the Web Portal — The web portal is the web page where users are redirected when they attempt to log on to the VAP.

Create Local Group — The local group can be assigned to an instance, which accepts users who belong to that group.

Create Local User — Local users are added to a local group and are allowed to access the captive portal that the group is configured to.

Globally Enable the Captive Portal

Step 1. In the web-based utility, choose **Captive Portal > Global Configuration**.



Step 2. (Optional) Enter the number of seconds that the user has to enter authentication information before the WAP closes the authentication session in the *Authentication Timeout* field.

Global Configuration			
Captive Portal Mode:	Enable		
Authentication Timeout:	300	Sec (Range: 60 - 600, Default: 300)	
Additional HTTP Port:	0	(Range: 1025 - 65535 or 80, 0 = Disable, Default: 0)	
Additional HTTPS Port:	0	(Range: 1025 - 65535 or 443, 0 = Disable, Default: 0)	

Step 3. (Optional) If you would like for the HTTP information between the WAP and the client to use a different port besides the default, enter the HTTP port number you would like to add in the *Additional HTTP Port* field. HTTP and other Internet protocols use ports to make sure devices know where to find a certain protocol. The options are 80, between 1025 and 65535, or enter 0 to disable. The HTTP port and HTTPS port cannot be the same.

Step 4. (Optional) If you would like for the HTTP information between the WAP and the client to use a different port besides the default, enter the HTTPS port number you would like to add in the *Additional HTTPS Port* field. The options are 443, between 1025 and 65535, or enter 0 to disable. The HTTP port and HTTPS port cannot be the same.

The following information is displayed in the Captive Portal Configuration Counters area and cannot be configured.

Captive Portal Con	figuration Counters
Instance Count:	0
Group Count:	1
User Count:	0
Save	

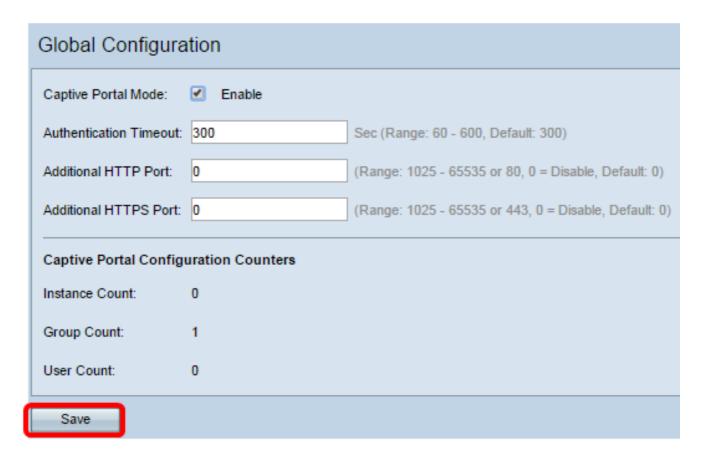
Instance Count — The number of CP instances configured on the WAP device. A maximum of two CPs can be configured on the WAP.

Group Count — The number of CP groups configured on the WAP device. Up to two groups can be configured. The Default Group cannot be deleted.

User Count — The number of CP users configured on the WAP device. A maximum of 128 users can be configured on the WAP.

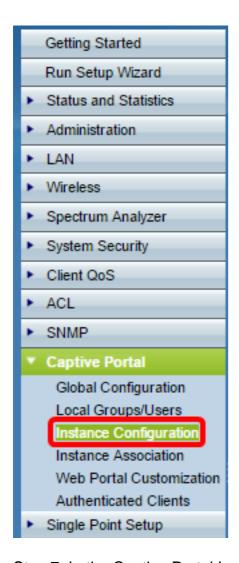
Step 5. Click Save.

Note: The changes are saved to the Startup Configuration.



Instance Configuration

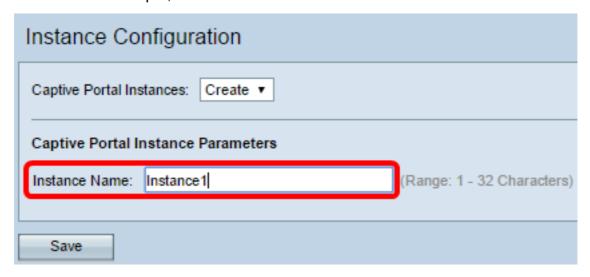
Step 6. In the web-based utility, choose **Captive Portal > Instance Configuration**.



Step 7. In the Captive Portal Instances drop-down list, you should notice the wiz-cp-inst1 instance. You can choose this name or create a new name for your Instance Configuration.

Step 8. (Optional) In the *Instance Name* field, enter a name for the configuration then click **Save**.

Note: In this example, a new instance is created.

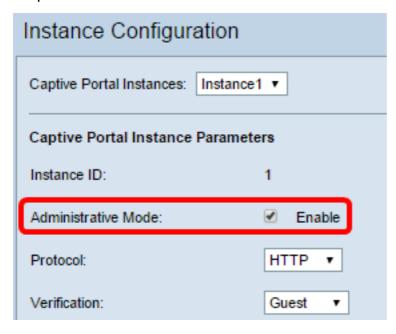


Note: You can create a maximum of up to two configurations. If you have already created two instances, you have to choose an instance to edit.

Step 9. The Instance Configuration window displays additional information. The Instance ID

is a non-configurable field that shows the instance ID of the current instance.

Step 10. Check the **Enable** check box in the Administrative Mode to enable the CP instance.



Step 11. From the Protocol drop-down list, choose the protocol you would like to use for the authentication process.

HTTP —Does not encrypt information used in the authentication process.

HTTPS —Provides encryption for information used in the authentication process.

Note: In this example, HTTP is used.

Step 12. Choose an authentication method for CP to use from the Verification drop-down list.

Guest —The user does not need to provide any authentication.

Local —The WAP checks the authentication information provided by the user against a local database that is stored on the WAP.

RADIUS —The WAP checks the authentication information provided by the user against the database of a remote RADIUS server.

Timesaver: If you choose Local or Guest, skip to <u>Step 28</u>.

Step 13. (Optional) If you want to redirect users who are verified to a configured URL, check the **Enable** Redirect check box. If this option is disabled, verified users will see a locale-specific welcome page.

Redirect:	Enable	
Redirect URL:		(Range: 0 - 256 Characters)
Away Timeout:	60	(Range: 0 - 1440 Min, Default: 60)
Session Timeout:	0	(Range: 0 - 1440 Min, Default: 0)
Maximum Bandwidth Upstream:	0	(Range: 0 - 1300 Mbps, Default: 0)
Maximum Bandwidth Downstream:	0	(Range: 0 - 1300 Mbps, Default: 0)

Step 14. (Optional) Enter the URL to which you would like to redirect verified users to.

Note: This step is only applicable if you enabled Redirect in <u>Step 13</u>.

Step 15. In the *Away Timeout* field, enter the amount of time (in minutes) that a user can be disassociated from the WAP and remain on the WAP authenticated client list. If the user is not connected to the WAP for longer then the Away Timeout value, they have to be reauthorized before they can use the WAP.

Step 16. In the Session Timeout field, enter the amount of time (in minutes) that the WAP waits before it terminates the session. A value of 0 means the timeout is not enforced.

Step 17. In *the Maximum Bandwidth Upstream* field, enter the maximum upload speed (in Mbps) that a client can send data via the captive portal.

Step 18. In the *Maximum Bandwidth Downstream* field, enter the maximum download speed (in Mbps) that a client can receive data via the captive portal.

Step 19. From the User Group Name drop-down list, choose the group that you wish to assign to the CP instance. Any user that is a member of the group you choose is allowed to access the WAP.

User Group Name:	Group1 ▼
RADIUS IP Network:	IPv4 ▼
Global RADIUS:	Enable

Note: The Verification mode in <a>Step 12 must be either Local or RADIUS to assign a group.

Step 20. From the RADIUS IP Network drop-down list, choose the type of Internet protocol that is used by the RADIUS client.

IPv4 —The address of the RADIUS client will be in the format xxx.xxx.xxx (192.0.2.10).

Step 21. (Optional) Check the **Enable** Global RADIUS check box if you want to use the global RADIUS server list for authentication. If you want to use a separate set of RADIUS

servers, leave the check box unchecked and configure the RADIUS servers on this page.

Timesaver: Skip to Step 28 if you enable Global RADIUS.

Note: In this example, Global RADIUS is not enabled.

Step 22. (Optional) Check the **Enable** RADIUS Accounting check box if you want to track and measure the time and data usage of the clients on the WAP network.

Note: If the Global RADIUS check box was enabled in <u>Step 21</u>, you do not need to configure additional RADIUS servers.

Step 23. In the Server IP Address-1 field, enter the IP address of the RADIUS server which you want to use as the primary server. The IP address should conform with the respective address format of IPv4 or IPv6.

Global RADIUS:	Enable	
RADIUS Accounting:	✓ Enable	
Server IP Address-1:	202.123.123.123	(xxx.xxx.xxxxxxxx)
Server IP Address-2:		(xxx.xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
Server IP Address-3:		(xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
Server IP Address-4:		(xxx.xxx.xxxx)

Step 24. (Optional) You can configure up to three backup RADIUS servers which will be checked in sequence until a match is found. If no match is found, the user will be denied access. In the Server IP Address-(2 to 4) fields, enter the IP address of the backup RADIUS servers to use if authentication fails with the primary server.

Step 25. In the *Key-1* field, enter the shared secret key that the WAP device uses to authenticate to the primary RADIUS server. This needs to be the same key that was configured on the RADIUS server.

Key-1:	••••••	(Range
Key-2:		(Range
Key-3:		(Range
Key-4:		(Range
Locale Count:	0	
Delete Instance:		
Save		

Step 26. In the rest of the Key fields (2-4), enter the shared secret key that the WAP device uses to authenticate to the respective backup RADIUS servers.

Note: Locale Count is a non-configurable field that displays the number of locales associated with this instance.

Step 27. (Optional) To delete the current instance, check the **Delete Instance** check box.

Step 28. Click Save.

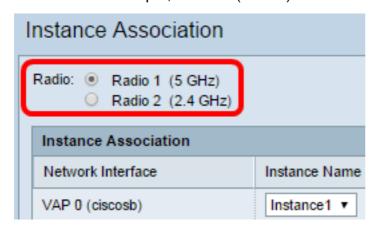
Associate Instance with VAP

Step 29. In the web-based utility, choose **Captive Portal > Instance Association**.



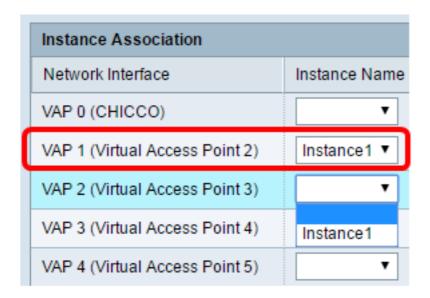
Step 30. Click the radio button of the radio to which you would like to associate an instance in the Radio area.

Note: In this example, Radio 1 (5 GHz) is chosen.

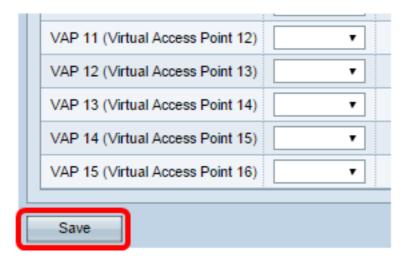


Step 31. Choose an instance configuration from the Instance Name drop-down list to associate with the given VAP.

Note: In this example, the created Instance1 in <u>Step 8</u> is used for VAP 1 (Virtual Access Point 2).



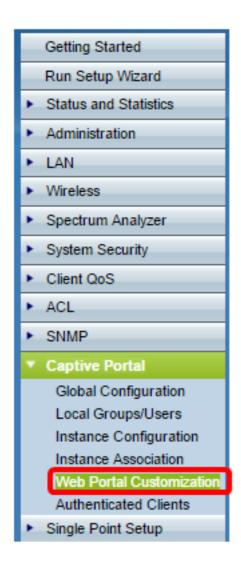
Step 32. Click Save.



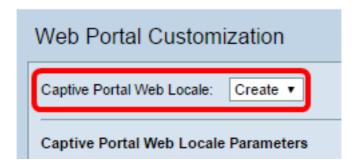
Customize Web Portal

A locale (authentication web page) is the web page that the WAP user sees when they attempt to access the Internet. The Web Portal Customization page allows you to customize a locale and assign it to a captive portal instance.

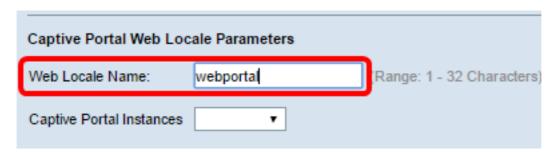
Step 33. In the web-based utility, choose **Captive Portal > Web Portal Customization**.



Step 34. Choose **Create** from the Captive Portal Web Locale drop-down list to create a new locale.



Step 35. Enter the name of the locale in the Web Locale Name field.



Step 36. Choose a captive portal instance that the locale is associated with from the Captive Portal Instances drop-down list. You may associate multiple locales to a single captive portal instance. The user can click a link to switch to a different locale.

Web Portal Customization	
Captive Portal Web Locale: Create ▼	
Captive Portal Web Locale Parameters	
Web Locale Name: webportal	(Range: 1 - 32 Characters)
Captive Portal Instances	
Save	

Step 37. Click **Save** to create a new locale.

Note: The Web Portal Customization page displays additional information.

Web Portal Custon	nization	
Captive Portal Web Locale:	webportal ▼	
Captive Portal Web Local	le Parameters	
Locale ID:	1	
Instance Name:	Instance1	
Background Image Name:	cisco_bkg.jpg ▼ Upload/Delete Cu	ustom Image
Logo Image Name:	cisco_logo.png ▼ Upload/Delete Cu	ustom Image
Foreground Color:	#999999	(Range: 1 - 32 Characters, Default: #999999)
Background Color:	#BFBFBF	(Range: 1 - 32 Characters, Default: #BFBFBF)
Separator:	#BFBFBF	Range: 1 - 32 Characters, Default: #BFBFBF)
Locale Label:	English	(Range: 1 - 32 Characters, Default: English)
Locale:	en	(Range: 1 - 32 Characters, Default: en)

Locale ID is a non-configurable field that displays the ID number of the current locale.

Instance Name is a non-configurable field that displays the captive portal instance name that is associated with the locale.

Step 38. From the Background Image Name drop-down list, choose an image to display in

the locale background. Click the **Upload/Delete Custom Image** button to add your own image. Go to the section Upload/Delete Custom Image for more information.

Step 39. From the Logo Image Name drop-down list, choose an image to display in the top left corner of the page.

Step 40. In the *Foreground Color* field, enter the 6-digit Hyper Text Transfer Protocol (HTML) code for the foreground color of the locale.

Step 41. In the *Background Color* field, enter the 6-digit HTML code for the background color of the locale.

Step 42. In the *Separator* field, enter the 6-digit HTML code for the color of the horizontal line that separates the page header from the page body.

Step 43. Enter a descriptive name for the locale in the *Locale Label* field. If you have multiple locales, this is the name of the link you click to change between locales. For example, if you have an English and Spanish locale, you may want to signify that in your locale name.

Step 44. Enter an abbreviation for the locale in the *Locale* field.

Step 45. From the Account Image drop-down list, choose an image to display above the login field.

Account Image:	login_key.jpg ▼ Upload/Delete Custom Image
Account Label:	Enter your Username (Range: 1 - 32 Characters)
User Label:	Username: (Range: 1 - 32 Characters)
Password Label:	Password: (Range: 1 - 64 Characters)

Step 46. In the *Account Label* field, enter the instructions that request the user to enter their username.

Step 47. In the *User Label* field, enter the label for the user name text box.

Step 48. In the Password Label field, enter the label for the password text box.

Step 49. In the *Button Label* field, enter the label for the button that the users click to submit their username and password.

		1	
Button Label:	Connect	(Range: 2 - 32 Characters,	Default: Connect)
Fonts:	'MS UI Gothic', arial, sans-serif		(Range: 1 - 512 C
			(rungo. r orz c
Browser Title:	Captive Portal		
			(Range: 1 - 128 C
Browser Content:	Welcome to the Wireless Network		
			(Range: 1 - 128 C
Content:	To start using this service, enter your of connect button.	credentials and click the	
		,	/Dance: 4 250.0
		//	(Range: 1 - 256 C
Acceptance Use Policy:	Acceptance Use Policy.		
		//	(Range: 1 - 4096

Step 50. In the *Fonts* field, enter the font name used for the locale. You may enter several font names separated by a comma. If the first font style is not found by the client device, the next font is used. If a font name has multiple words separated by spaces, use single quotes to surround the font name. For instance, 'MS UI Gothic', arial, sans-serif, and so on.

Step 51. In the *Browser Title* field, enter the text you would like to display in the browser title bar.

Step 52. In the *Browser Content* field, enter the text you would like to display in the page header.

Step 53. In the *Content* field,enter the text that instructs the user on what to do. This field is shown below the user name and password text boxes.

Step 54. In the *Acceptance Use Policy* field, enter the terms that users must agree to if they want to access the WAP.

Step 55. In the Accept Label field, enter the text that instructs users to check that they have

read and accepted the Acceptance Use Policy.

Accept Label:	Check here to indicate that you have read and accepted the Acceptance Use Policy.	2 (Range:	1 - 128
No Accept Text:	Error: You must acknowledge the Acceptance Use Policy before connecting!	(Range:	1 - 128
Work In Progress Text:	Connecting, please be patient	(Range:	
Denied Text:	Error: Invalid Credentials, please try again!	(Range:	
Welcome Title:	Congratulations!	(Range	1 - 128

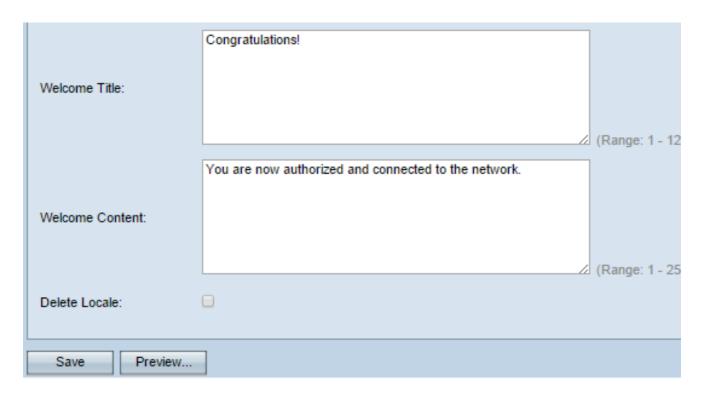
Step 56. In the *No Accept Text* field, enter the text that prompts a user if they submit login credentials but do not accept the Acceptance Use Policy.

Step 57. In the *Work In Progress Text* field, enter the text that is shown while the WAP checks the given credentials.

Step 58. In the *Denied Text* field, enter the text that is shown when a user fails authentication.

Step 59. In the *Welcome Title* field, enter the title text that is shown when a client is successfully authenticated.

Step 60. In the *Welcome Content field*, enter the text that is shown to a client who has connected to the network.

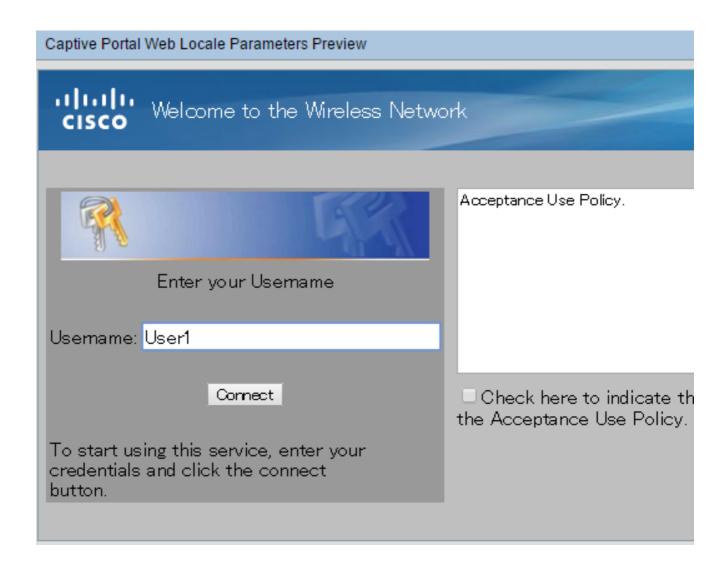


Step 61. (Optional) To delete the current locale, check the **Delete Locale** check box.

Step 62. Click Save.

Step 63. (Optional) To view your current locale, click **Preview**. If you make changes, click **Save** before you preview to update the changes.

Note: The captive portal login screen looks similar to the following image:



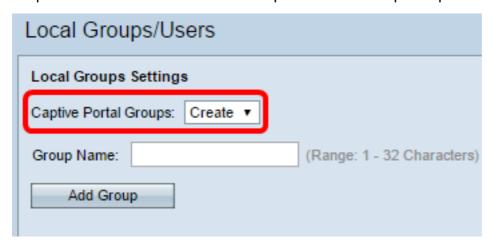
Create Local Group

A non-guest captive portal requires users to log in based on their username and password. The WAP creates a local group that contains a group of local users. The local group is then attached to an instance. Local users that are a member of the local group are able to gain access through the captive portal. The Default local group is always active and cannot be deleted. Up to two additional local groups can be added to the WAP.

Step 64. In the web-based utility, choose Captive Portal > Local Groups/Users.



Step 65. Choose Create from the Captive Portal Groups drop-down list.



Step 66. Enter the name of the local group in the *Group Name* field.

Local Groups/Users				
Local Groups Settings				
Captive Portal Groups: Create ▼				
Group Name: Group1	Range: 1 - 32 Characters)			
Add Group				

Step 67. Click **Add Group** to save the group.

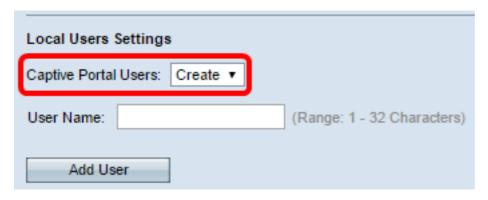
Local Grou	ps/Us	ers			
Local Groups Settings					
Captive Portal Groups:		Create	•		
		Create		<u></u>	
Group Name:		Default		(Range: 1 - 32 Characters)	
		Group1			
Add Grou	р				

Note: You can assign a local group to an instance in <u>Step 19</u> of the section titled Instance Configuration.

Create Local User

Local users are added to a local group. These users are able to access a captive portal that has an instance with their local group configured. Some information that is configured in the Local Users page is also configured in the Instance Configuration page. The value configured for a local user has precedence over the value configured for an instance. You can configure up to 128 authorized users in the local database.

Step 68. Choose **Create** from the Captive Portal Users drop-down list.



Step 69. In the *User Name* field, enter the user name you want to add.

Local Users Settings				
Captive Portal Users:				
User Name: User1	(Range: 1 - 32 Characters)			
Add User				

Step 70. Click **Add User** to create the new user. The Local Users Settings window displays additional information.

Local Users Settings		
Captive Portal Users: User1 ▼		
User Password:		(Range: 8 - 64 Alphanumeric & Special
	Show Password as Cle	ear Text
Away Timeout:	60	(Range: 0 - 1440 Min, Default: 60)
Group Name:	Default Group1	
Maximum Bandwidth Upstream:	0	(Range: 0 - 1300 Mbps, Default: 0)
Maximum Bandwidth Downstream:	0	(Range: 0 - 1300 Mbps, Default: 0)
Delete User:		
Save		

Step 71. In the *User Password* field, enter the password associated with the user.

Step 72. (Optional) To have the password be displayed in clear text, check the **Show Password as Clear Text** check box. If the check box is unchecked, the password is masked.

Step 73. In the *Away Timeout* field, enter the amount of time (in minutes) a user can be disassociated from the WAP and remain on the WAP authenticated client list. If the user is not connected to the WAP for longer then the Away Timeout, they have to be reauthorized before they can use the WAP.

Step 74. In the *Group Name* field, click the local group you would like the user to join.

Step 75. In the *Maximum Bandwidth Upstream* field, enter the maximum upload speed in Mbps that a client can send data via the captive portal.

Step 76. In the *Maximum Bandwidth Downstream* field, enter the maximum download speed in Mbps that a client can receive data via the captive portal.

Step 77. (Optional) To delete a local user, check the **Delete User** check box.

Step 78. Click Save.

You should now have configured the advanced Captive Portal settings of your WAP571 or WAP571E.