# **Configure 9800 WLC Lobby Ambassador with RADIUS and TACACS+**

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# Introduction

This document describes how to configure Catalyst 9800 Wireless Controllers for RADIUS and TACACS+

external authentication of Lobby Ambassador users.

# Prerequisites

## Requirements

Cisco recommends that you have knowledge of these topics:

- 9800 Wireless LAN Controller Lobby Admin concepts
- Authentication, Authorization and Accounting (AAA) RADIUS concepts
- TACACS+ concepts

## **Components Used**

The information in this document is based on these software and hardware versions:

- Catalyst 9800 Wireless Controller Series (Catalyst 9800-CL)
- Cisco IOS® XE Gibraltar 16.12.1s
- Identity Service Engine (ISE) 2.3.0

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, ensure that you understand the potential impact of any command.

# **Background Information**

The Lobby Ambassador is created by the administrator of the network. A Lobby Ambassador is capable to create a guest user entry in the Wireless LAN Controller (WLC) that includes username, password, description and lifetime. It also has the capability to delete the guest user. The Lobby Ambassador can create the guest user via Graphical USer Interface (GUI) or Command Line Interface (CLI).

# Configure

## **Network Diagram**



Network Diagram

The configuration in this document is based in two Lobby Ambassadors, the first Lobby Ambassador is named lobby and it authenticates against the RADIUS Server, the second Lobby Ambassador is named lobbyTac and it authenticates against TACACS+. Both have the ability to configure guest users in the WLC.

### Lobby Ambassador RADIUS Authentication

#### **Configure a RADIUS Server on Wireless LAN Controller**

#### WLC GUI

Navigate to **Configuration > Security > AAA > Servers/Groups > RADIUS > Servers > + Add** as shown in the image.

Q Search Menu Items	ifiguration * > Security * > AAA								
📻 Dashboard	+ AAA Wizard								
Monitoring    →	Servers / Groups AAA Method List AAA Advanced								
Configuration >	+ Add × Delete								
() Administration >	RADIUS								
💥 Troubleshooting	TACACS+	_							
	Name  V Address  V Auth Port  V Acct Port	~							
	RadiusLobby 192.168.166.8 1812 1813								
	Image:								

Radius Server on WLC

When the configuration window opens, the mandatory configuration parameters are the RADIUS **Server Name**, the RADIUS Server **IP ADDRESS**, and Radius Server **Shared Secret**. Any other parameter can be left as default, or can be configured as desired.

#### WLC CLI

```
Tim-eWLC1(config)#radius server RadiusLobby
Tim-eWLC1(config-radius-server)#address ipv4 192.168.166.8 auth-port 1812 acct-port 1813
Tim-eWLC1(config-radius-server)#key 0 Cisco1234
Tim-eWLC1(config)#end
```

#### Add the RADIUS Server to a Server Group

#### WLC GUI

Navigate to **Configuration** > **Security** > **AAA** > **Servers** / **Groups** > **RADIUS** > **Server Groups** > + **Add** as shown in the image.

Q Search Menu Items	Configuration * > Secu	nfiguration * > Security * > AAA								
📻 Dashboard	+ AAA Wizard									
Monitoring >	Servers / Groups	AAA Method List AA	A Advanced							
🔾 Configuration 🛛 🔸	+ Add × Delete									
() Administration ›	RADIUS		_							
💥 Troubleshooting	TACACS+	Servers Server Gr	roups							
	LDAD	Name	<ul> <li>Server 1</li> </ul>	Server 2	Server 3					
	LUAF	GroupRadLobby	RadiusLobby	N/A	N/A					
			10 v items per page		1 - 1 of 1 items					

Radius Server on Server Group

When the configuration window opens, configure a **Name** to the group, move the configured RADIUS Servers from the **Available Servers** list to the **Assigned Servers list**.

#### WLC CLI

```
Tim-eWLC1(config)#aaa group server radius GroupRadLobby
Tim-eWLC1(config-sg-radius)#server name RadiusLobby
Tim-eWLC1(config-sg-radius)#end
```

#### Create an AAA Authentication Method List

#### WLC GUI

Navigate to **Configuration > Security > AAA > AAA Method List > Authentication > + Add** as shown in the image.

Q Search Menu Items	Configuration * > Sec	Configuration * > Security * > AAA							
🚃 Dashboard	+ AAA Wizard	+ AAA Wizard							
Monitoring	Servers / Groups	A/	AA Method List	AAA Advand	ced				
ې Configuration ک	Authentication	_							
() Administration >	Authorization	-	+ Add × D						
💥 Troubleshooting	Accounting		Name ~	Туре 🗸	Group ~ Type	Group1 ~	Group2 ~	Group3 ~	Group4 ×
		0	AuthenLobby	login	local	GroupRadLob	N/A	N/A	N/A

Authentication Method List

When the configuration window opens, configure a **Name**, select the **Type** option as **Login** and assign the **Server Group** created previously. The **Group Type** can be selected as Local or Group

#### AAA Method List Group Type Local First

Group Type as Local makes the WLC first check if the user exists in the local database, and then falls back

to the Server Group only if the Lobby Ambassador user is not found in the local database.

WLC CLI

Tim-eWLC1(config)#aaa authentication login AuthenLobbyMethod local group GroupRadLobby Tim-eWLC1(config)#end



**Note**: Please be aware of Cisco bug ID <u>CSCvs87163</u> when using AAA Method List Group Type Local First.

#### AAA Method List Group Type Group

Group Type as **Group** and no fallback to local option checked makes the WLC check the user against the Server Group and does not check in its local database.

#### WLC CLI

Tim-eWLC1(config)#aaa authentication login AuthenLobbyMethod group GroupRadLobby Tim-eWLC1(config)#end

#### AAA Method List Group Type Group with Fallback

Group Type as **Group** and **Fallback To Local** option checked makes the WLC check the user against the Server Group and does a query the local database unless the RADIUS Server times out the response. If the Radius Server responds even with a reject, the WLC does not trigger a local authentication.

WLC CLI

Tim-eWLC1(config)#aaa authentication login AuthenLobbyMethod group GroupRadLobby local Tim-eWLC1(config)#end

#### Create an AAA Authorization Method List

#### WLC GUI

Navigate to **Configuration > Security > AAA > AAA Method List > Authorization > + Add** as shown in the image.

Q Search Menu Items	Configuration * > Security * > AAA									
🚃 Dashboard	+ AAA Wizard	+ AAA Wizard								
Monitoring >	Servers / Groups	AAA Method List	AAA Advan	ced						
🔾 Configuration 🛛 🔸	Authentication									
() Administration	Authorization	+ Add $\times$ D								
💥 Troubleshooting	Accounting	Name 🗸	Туре 🗸	Group × Type	Group1 ~	Group2 ~	Group3 V	Group4 ~		
		AuthozLobby	exec	local	GroupRadLob	N/A	N/A	N/A		

Authorization Method List

When the configuration window opens to provide a **Name**, select the type option as **exec** and assign the **Server Group** created previously.

The Group Type applies the same way it was explained in the Create an AAA Method List section.

WLC CLI

AAA Method List Group Type Local First.

Tim-eWLC1(config)#aaa authorization exec AuthozLobbyMethod local group GroupRadLobby Tim-eWLC1(config)#end

AAA Method List Group Type Group.

Tim-eWLC1(config)#aaa authorization exec AuthozLobbyMethod group GroupRadLobby Tim-eWLC1(config)#end

AAA Method List Group Type Group with Fallback.

Tim-eWLC1(config)#aaa authorization exec AuthozLobbyMethod group GroupRadLobby local Tim-eWLC1(config)#end

#### **AAA Method Lists Assignments**

Assign the **AAA Authentication** and **Authorization Method** to the **HyperText Transfer Protocol** (**HTTP**) and **Virtual TeleType** (**VTY**) of the WLC.

These steps cannot be done from GUI, hence they need to be done from CLI.

HTTP Configuration.

Tim-eWLC1(config)#ip http authentication aaa login-authentication AuthenLobbyMethod Tim-eWLC1(config)#ip http authentication aaa exec-authorization AuthozLobbyMethod Tim-eWLC1(config)#end

It is recommended to restart the HTTP services.

```
Tim-eWLC1(config)#no ip http server
Tim-eWLC1(config)#no ip http secure-server
Tim-eWLC1(config)#ip http server
Tim-eWLC1(config)#ip http secure-server
Tim-eWLC1(config)#end
```

VTY Configuration.

```
Tim-eWLC1(config)#line vty 0 15
Tim-eWLC1(config-line)#login authentication AuthenLobbyMethod
Tim-eWLC1(config-line)#authorization exec AuthozLobbyMethod
Tim-eWLC1(config-line)#end
```

Due to Cisco bug ID <u>CSCvu29748</u> a WLC running a version prior to 17.3.3 or 17.14 and 17.15 must

configure via CLI the configuration shown next. This is not needed if the WLC runs a version in 17.3 family code from 17.3.4 to 17.3.8a, or if it runs 17.16.1 and onwards codes.

WLC CLI

Tim-eWLC1(config)#aaa remote username lobby

#### **Configure ISE for Radius Authentication**

#### Add the WLC to ISE

Navigate to **Administration > Network Resources > Network Devices > + Add** as shown in the image.

Hentity Services Engine	lome   Context	Visibility	ations   Policy	<ul> <li>Administration</li> </ul>	Work Centers		
System → Identity Management	Network Resources	Device Portal Ma	nagement pxGrid	Services Feed	Service + Threat Centric N	AC	
Network Devices Network Device Group	ups Network Device	e Profiles Externa	RADIUS Servers	RADIUS Server Se	quences NAC Managers	External MDM	
G							
Network Devices	Network Device	es					
Default Device		-	_	-			
Device Security Settings	/ Edit Add	Duplicate 💽 Ir	nport 💮 Export 👻	Generate PAC	🗙 Delete 🔻		Show
	Name	<ul> <li>IP/Mask</li> </ul>	Profile Name	L	ocation	Туре	Description
	Tim-eWLC1	192.168.166.7	👬 Cisco 🕀	A	I Locations	All Device Types	9800

Add WLC to ISE

When the configuration window opens, configure a **Name**, **IP ADDRESS**, enable **RADIUS Authentication Settings**, and under **Protocol Radius** enter the **Shared Secret**.

#### Create the Lobby Ambassador User on ISE

Navigate to **Administration > Identity Management > Identities > Users > + Add** as shown in the image.

dentity Services Engine	Home   Contex	kt Visibility > Operations	► Policy ► Ad	ministration Vork Centers					
System Identity Management	Network Resources	Device Portal Manageme	nt pxGrid Services	► Feed Service ► Threat C	entric NAC				
◄ Identities Groups External Ident	ity Sources Identity	Source Sequences Setting	IS						
•									
Users	Network Acces	ss Users							
Latest Manual Network Scan Results	🖊 Edit 🕂 Add	🔀 Change Status 👻 🕼 Imp	oort 🔹 Export 👻	🗙 Delete 👻 🔓 Duplicate					
	Status	Name	<ul> <li>Description</li> </ul>	First Name Las	t Name				
	🗌 🗹 Enabled	👤 lobby							

Lobby Ambassador username and password in ISE

When the configuration window opens, provide the **Name** and **Password** for the Lobby Ambassador user, also ensure the **Status** shows as **Enabled**.

This username and password configuration is the assigned to the Lobby Ambassador in charge to create the guest users in the WLC, in other words, this is the username and password the Network Administrator assigns to the Lobby Ambassador.

#### **Create a Results Authorization Profile**

Navigate to **Policy > Policy Elements > Results > Authorization > Authorization Profiles > + Add** as shown in the image.

dentity Services Engine	me	<ul> <li>Operations</li> </ul>	✓ Policy	► Administration	• Work Centers
Policy Sets Profiling Posture Client	Provisioning   Policy Element	ts			
Dictionaries Conditions Results					
Authentication	Standard Authorization	Profiles stration > System	> Backup &	Restore > Policy Expo	ort Page
- Authorization					-
Authorization Profiles	/ Edit 🕂 Add 🖓 Duplica	ate 🔀 Delete			
Downloadable ACLs	Name	Name			
Downloadable ACES	9800RadiusLobby		disco Cisco	$\oplus$	

Ensure that the profile is configured to send an Access-Accept as shown in the image.

dentity Services Engine	Home	Context Visibility	Operations	✓ Policy
Policy Sets Profiling Posture	Client Provision	ning Policy Ele	ments	
Dictionaries Conditions	Results			
▶ Authentication	Authoriza     Authori	ation Profiles > 9800 ization Profile	RadiusLobby	
- Authorization		* Name [	9800RadiusLobby	
Authorization Profiles		Description		
Downloadable ACLs		* Access Type	ACCESS_ACCEPT	•

Access Type Access-Accept

Add the attributes manually under **Advanced Attributes Settings**. The attributes are needed to define the user as Lobby Ambassador and to provide the privilege to allow the Lobby Ambassador to make the needed changes in the WLC to add the guest users.

Authorization Profile in ISE





Advance Attributes Settings in ISE

#### **Create an Authentication Policy**

Navigate to **Policy > Policy Sets > Add** as shown in the image.

dialia cisco	Identity Se	rvices Engine	Home	Context Visibility	<ul> <li>Operations</li> </ul>	- Polis	y Administrati	on → Work	Centers		
Policy	Sets Pro	filing Posture	Client Provision	ing	ents						
Policy	/ Sets										
+	Status	Policy Set Nan	10	Description		Condit	ons			Allowed Protocols / Serve	er Sequence
Searc	h										
	Ø	9800LobbyRadiu	s			1	Network Access-Use	Name EQUAL	S lobby	Default Network Access	× • +

Authentication Policy in ISE

The conditions to configure the policy relies upon the Administrator decision. Network Access-Username condition and the Default Network Access protocol are used in this example.

It is mandatory to ensure under the **Authorization Policy** the profile configured under the **Results Authorization** is selected, that way the correct attributes are returned to the WLC.

Click the **Authorization Policy** configured, the configuration window opens to configure the **Authorization Policy** with the proper **Result Profile**. The **Authentication Policy** can be left as default.

Policy Sets → 9800LobbyRadius								
	Status	Policy Set Name	Description	Conditions			Allowed Protocols / Server	Sequence
Search								
	0	9800LobbyRadius		Network Access-UserName EQUALS lobby			Default Network Access	x * +
> Aut	hentication	n Policy (1)						
> Aut	horization	Policy - Local Exceptions						
> Aut	horization	Policy - Global Exceptions						
<b>∀</b> Aut	horization	Policy (2)						
	1				Results			
	Status Rule Name Conditions Profiles Security Groups Hits							Hits
Sear	ch							
	0	9800LobbyAutho	Network Access-UserNam	e EQUALS lobby	×9800RadiusLobby	+ Select from	n list 👻 🕇	0

Authorization Policy Configuration

## Lobby Ambassador TACACS+ Authentication

#### Configure a TACACS+ Server on Wireless LAN Controller

#### WLC GUI

Navigate to **Configuration > Security > AAA > Servers/Groups > TACACS+ > Servers > + Add** as shown in the image.

Q Search Menu Items	Configuration * > Security * > AAA								
🔜 Dashboard	+ AAA Wizard								
Monitoring >	Servers / Groups AAA Method	List AAA Advanced							
🔾 Configuration 🔹 🔸	+ Add × Delete	+ Add × Dolate							
(☉) Administration →	RADIUS								
💥 Troubleshooting	TACACS+	Server Groups							
	Name	~	Server Address ~	Port ~					
	[] TACACS	SLobby	192.168.166.8	49					
	H 4	1 ▶ ▶  10 ¥ items p	per page	1 - 1 of 1 items					

Add TACACS to WLC

When the configuration window opens, the mandatory configuration parameters are the TACACS+ **Server Name**, the TACACS **Server IP ADDRESS**, and the **Shared Secret**. Any other parameter can be left as default, or configured as needed.

WLC CLI

```
Tim-eWLC1(config)#tacacs server TACACSLobby
Tim-eWLC1(config-server-tacacs)#address ipv4 192.168.166.8
Tim-eWLC1(config-server-tacacs)#key 0 Cisco123
Tim-eWLC1(config-server-tacacs)#end
```

#### Add the TACACS+ Server to a Server Group

#### WLC GUI

Navigate to **Configuration > Security > AAA > Servers / Groups > TACACS > Server Groups >** +**Add** as shown in the image.



TACACS Server Group

When the configuration window opens, configure a **Name** to the group and move the desired TACACS+ Servers from the **Available Servers** list to the **Assigned Servers** list.

WLC CLI

```
Tim-eWLC1(config)#aaa group server tacacs+ GroupTacLobby
Tim-eWLC1(config-sg-tacacs+)#server name TACACSLobby
Tim-eWLC1(config-sg-tacacs+)#end
```

#### **Create an Authentication Method List**

#### WLC GUI

Navigate to **Configuration > Security > AAA > AAA Method List > Authentication > +Add** as shown in the image.

Q Search Menu Items		Configuration * > Se	curity	- > AAA						
🔜 Dashboard		+ AAA Wizard								
	>	Servers / Groups	AA	A Method List	AAA Advance	ed				
🔾 Configuration	>	Authentication	_	_						
() Administration	>	Authorization		+ Add X De						
X Troubleshooting		Accounting		Name v	Туре 🗸	Group ~ Type	Group1 ~	Group2 ~	Group3 ~	Group4 ~
			0	AutheTacMeth	login	local	GroupTacLobby	N/A	N/A	N/A

TACACS AAA Method List Configuration

When the configuration window opens, configure a **Name**, select the type option as **Login** and assign the **Server Group** created previously.

#### AAA Method List Group Types

TACACS+ authentication supports different Method List Types such as Local and Group. Refer to the previous section of the document named Create an AAA Authentication Method List to understand each of the types.

Next, the commands to configure the TACACS+ Method Lists via CLI.

WLC CLI

AAA Method List Group Type Local First.

Tim-eWLC1(config)#aaa authentication login AutheTacMethod local group GroupTacLobby Tim-eWLC1(config)#end

AAA Method List Group Type Group.

Tim-eWLC1(config)#aaa authentication login AutheTacMethod group GroupTacLobby Tim-eWLC1(config)#end

AAA Method List Group Type Group with Fallback.

Tim-eWLC1(config)#aaa authentication login AutheTacMethod group GroupTacLobby local Tim-eWLC1(config)#end

#### **Create an AAA Authorization Method List**

#### WLC GUI

Navigate to **Configuration > Security > AAA > AAA Method List > Authorization > +Add** as shown in the image.

Q Search Menu Items	Configuration * > Sec	ourity > AAA						
📻 Dashboard	+ AAA Wizard							
Monitoring >	Servers / Groups	AAA Method List	AAA Advanc	ed				
✓ Configuration →	Authentication							
<ul><li>⟨O⟩ Administration →</li></ul>	Authorization	+ Add $\times \mathbb{I}$						
💥 Troubleshooting	Accounting							
		Name ~	Туре 🗸	Group Y Type	Group1	Group2 ~	Group3 ~	Group4 ~
		AuthozTacMe	exec	local	GroupTacLob	N/A	N/A	N/A
		4 4 1 ⊨	▶  10 ▼	tems per page				1 - 1 of 1 items

TACACS Authorization List Configuration

When the configuration window opens, configure a **Name**, select the **Type** option as **exec** and assign the **Server Group** created previously.

The Group Type applies the same way it was explained in the Create an AAA Method List section.

WLC CLI

AAA Method List Group Type Local First.

Tim-eWLC1(config)#aaa authorization exec AuthozTacMethod local group GroupTacLobby Tim-eWLC1(config)#end

AAA Method List Group Type Group.

Tim-eWLC1(config)#aaa authorization exec AuthozTacMethod group GroupTacLobby Tim-eWLC1(config)#end

AAA Method List Group Type Group with Fallback.

Tim-eWLC1(config)#aaa authorization exec AuthozTacMethod group GroupTacLobby local Tim-eWLC1(config)#end

#### AAA Method Lists Assignments

Assign the AAA Authentication and Authorization Method to the HTTP and VTY of the WLC.

These steps cannot be done from GUI, hence they need to be done from CLI.

HTTP Configuration.

Tim-eWLC1(config)#ip http authentication aaa login-authentication AutheTacMethod Tim-eWLC1(config)#ip http authentication aaa exec-authorization AuthozTacMethod Tim-eWLC1(config)#end

It is recommended to restart the HTTP services.

```
Tim-eWLC1(config)#no ip http server
Tim-eWLC1(config)#no ip http secure-server
Tim-eWLC1(config)#ip http server
Tim-eWLC1(config)#ip http secure-server
Tim-eWLC1(config)#end
```

VTY Configuration.

```
Tim-eWLC1(config)#line vty 0 15
Tim-eWLC1(config-line)#login authentication AutheTacMethod
Tim-eWLC1(config-line)#authorization exec AuthozTacMethod
Tim-eWLC1(config-line)#end
```

Due to Cisco bug ID <u>CSCvu29748</u> a WLC running a version before 17.3.3 or 17.14 and 17.15 must configure the configuration next. This is not needed if the WLC runs a version in 17.3 family code from 17.3.4 to 17.3.8a, or if it runs 17.16.1 and onwards codes.

CLI:

Tim-eWLC1(config)#aaa remote username lobbyTac

#### **Configure ISE for TACACS+ Authentication**

**Enable Device Admin** 

Navigate to **Administration > System > Deployment** as shown in the image.



Device Admin in ISE for TACACS

Select Enable Device Admin Service and ensure that it has been enabled.

#### Add the WLC to ISE

Navigate to **Administration > Network Resources > Network Devices > + Add** as shown in the image.

diale Identity	Services Engine	Home	Context	Visibility	<ul> <li>Operations</li> </ul>	Policy	✓Administr	ation 🔹 V	/ork Centers			
► System ►	Identity Management	▼Network	Resources	Device Po	ortal Manager	nent pxGrid	Services + F	eed Service	Threat Centric N	AC		
✓ Network Device	ces Network Device	Groups	Network Devic	ce Profiles	External RAD	UUS Servers	RADIUS Serve	er Sequences	NAC Managers	External MDM	Location Services	
	G	•										
Network Devices		Netw	ork Devic	es								
Default Device						-						
Device Security S	ettings	/ Ed	it Add	L Duplicate	Import	Export 🔻	Generate F	AC X Dele	te 🔻			Show
		P	lame	<ul> <li>IP/Mask</li> </ul>	Pro	file Name		Location		Туре		Description
			im-eWLC1	192.168.1	166.7 dite	Cisco 🕀		All Locatio	ns	All Device	Types	9800

Add WLC to ISE

When the configuration window opens to configure a **Name**, **IP ADDRESS**, enable **TACACS**+ **Authentication Settings** and enter the **Shared Secret**.

#### Create the Lobby Ambassador User on ISE

Navigate to Administration > Identity Management > Identities > Users > + Add as shown in the image.

dentity Services Engine	Home ► Contex	t Visibility	Policy     Administ	ration Vork Ce	enters
► System	Network Resources	Device Portal Management	pxGrid Services	Feed Service > Th	reat Centric NAC
✓Identities Groups External Ide	ntity Sources Identity	Source Sequences			
	3				
Users	Network Acces	s Users			
Latest Manual Network Scan Results					
	🥖 Edit 🕂 Add	🔢 Change Status 👻 🚺 Impo	rt 🚯 Export 👻 🗶 De	lete 👻 🏳 Duplicate	
	Status 👻	Name	Description	First Name	Last Name
	🗌 🗹 Enabled	👤 lobbyTac			

Lobby Ambassador username and password in ISE

When the configuration window opens, provide the **Name** and **Password** for the Lobby Ambassador user, also ensure the **Status** shows as **Enabled**.

This username and password configuration is the assigned to the Lobby Ambassador in charge to create the guest users in the WLC. In other words, this is the username and password the Network Administrator assigns to the Lobby Ambassador.

#### **Create a Results TACACS+ Profile**

Navigate to **Work Centers > Device Administration > Policy Elements > Results > TACACS Profiles** as shown in the image.

dentity Services Engine	Home	▸ Operations  ► P	olicy I Admin	istration  Vork Centers
Network Access     Guest Access	TrustSec     BYOD     Prof	iler   Posture  De	vice Administratior	▶ PassiveID
► Overview ► Identities User Identi	ty Groups Ext Id Sources	Network Resources	Policy Elements	Device Admin Policy Sets
Conditions	TACACS Profiles			
Network Conditions	0 Selected			
▼ Results	C Refresh + Add	Duplicate 💼 Tras	h▼ 🕑 Edit	
Allowed Protocols	Name		Type D	escription
TACACS Command Sets	Default Shell Profile		Shell De	efault Shell Profile
TACACS Profiles	Deny All Shell Profile	9	Shell De	eny All Shell Profile
	WLC ALL		WLC W	LC ALL
	WLC MONITOR		WLC W	LC MONITOR

#### TACACS Profile

After you click +Add, the configuration window opens as shown in the next image. Configure a Name to the profile.

Ensure the **Common Task Type** is selected as **Shell**, configure a **Default Privileged 15** and a **Custom Attribute** as **Type Mandatory**, **Name** as **user-type**, and the **Value** as **lobby-admin**.

Task Attribute View	Raw View		
Common Tasks			
Common Task Type Shell 🔻			
Default Privilege	15	0	(Select 0 to 15)
Maximum Privilege		0	(Select 0 to 15)
Access Control List		٢	]
Auto Command		0	]
No Escape		0	(Select true or false)
🔲 Timeout		0	Minutes (0-9999)
Idle Time		0	Minutes (0-9999)
Custom Attributes 1 Selected			
+ Add mithi Trash ▼ 🕑 Edi	t		
✓ Туре	Name	Value	
MANDATORY	user-type	lobby-admin	

TACACS Profile Shell Configuration

#### **Create a Policy Set**

Navigate to Work Centers > Device Administration > Device Admin Policy Sets as shown in the image

altalta cisco	Identity Se	rvices Engine	Home	Context Visibility	<ul> <li>Operations</li> </ul>	Policy	/ ► Admin	istration	- Work Centers	5				Q,	0	• •
► Ne	twork Access	Guest Access	<ul> <li>TrustSec</li> </ul>	BYOD     Prof	filer   Posture	▼ Device	Administration	<ul> <li>Pass</li> </ul>	iveID							
► Ov	verview 🕨 I	dentities User Iden	tity Groups	Ext Id Sources	Network Resource	s 🕨 Pol	icy Elements	Device Ac	Imin Policy Sets	Reports	Settings					
Polic	cy Sets													R	leset	Save
+	Status	Policy Set Name		Description		Conditio	ons			Allow	ed Protocols / S	erver Seque	nce	Hits	Actions	View
Sea	rch															
	Ø	9800TacacsLobby				1	Network Access	s∙UserNam yTac	e	Defa	ult Device Admin	× Ŧ	+	0	٥	>

TACACS Policy Set Configuration

The conditions to configure the policy rely upon the Administrator decision. For this document, the Network Access-Username condition and the Default Device Admin protocol are used. It is mandatory to ensure

under the **Authorization Policy** that the profile configured under the **Results Authorization** is selected, this makes the correct attributes to be returned to the WLC.

Click the Policy configured, and the configuration window opens. Configure the **Authorization Policy** with the proper **Shell Profile**. The **Authentication Policy** can be left as default as shown in the image.

Policy Sets +	Policy Sets → 9800TacacsLobby								
Status	Status Policy Set Name Description Conditions								
Search									
ø	9800TacacsLobby		Network Access UserName EQUALS lobbyTac		Default Device Admin	x v 🕂	0		
> Authentication	n Policy (1)								
> Authorization	Policy - Local Exceptions								
> Authorization	Policy - Global Exceptions								
✓ Authorization	Policy (2)								
<b>(</b>				Results					
Status	Rule Name	Conditions		Command Sets	Shell Profiles	Hits	Actions		
Search									
Ø	9800TacacsAuth	Network Access-UserNam	ne EQUALS lobbyTac	Select from list	9800TacacsLobby × +	0	٥		

TACACS Policy Set Authorization Configuration

# Verify

Use this section to confirm that your configuration is correct.

```
show run aaa
show run | sec remote
show run | sec http
show aaa method-lists authentication
show aaa method-lists authorization
show aaa servers
show tacacs
```

This is how the Lobby Ambassador Graphical User Interface (GUI) looks after successful authentication with either AAA Radius or TACACS+.

Q. Search Monuliterrs	+ Add × Delete			
	User Name	<ul> <li>Description</li> </ul>	<ul> <li>Created By</li> </ul>	4
	H 4 0 + H 10 + items per p	age		No items to display

Lobby Ambassador View from WLC

# Troubleshoot

This section provides information you can use to troubleshoot your configuration.

## **AAA Radius Authentication**

For RADIUS authentication, these debugs can be used:

```
Tim-eWLC1#debug aaa authentication
Tim-eWLC1#debug aaa authorization
Tim-eWLC1#debug aaa attr
Tim-eWLC1#terminal monitor
```

Ensure the right method list is selected from the debug. Also, the correct attributes are returned by the ISE Server with the right username, user-type and privilege.

<#root>

Feb 5 02:35:27.659: AAA/AUTHEN/LOGIN (00000000): Pick method list '

AuthenLobbyMethod

۲

```
Feb 5 02:35:27.681: ADD-DELETE: AAA/ATTR(00000000): add attr: sublist(0x7FBA5500C860) index(0): 7FBA5500C870 0 00000081 username(450) 5
```

lobby

Feb 5 02:35:27.681: ADD-DELETE: AAA/ATTR(00000000): add attr: sublist(0x7FBA5500C860) index(1): 7FBA5500C8B0 0 00000001

user-type

(1187) 4

lobby-admin

Feb 5 02:35:27.681: ADD-DELETE: AAA/ATTR(00000000): add attr: sublist(0x7FBA5500C860) index(2): 7FBA5500C8F0 0 00000001

priv-lvl

(335) 4

15

(F)

Feb 5 02:35:27.683: %WEBSERVER-5-LOGIN\_PASSED: Chassis 1 R0/0: nginx: Login Successful from host 192.168.166.104 by user 'lobby' using crypto cipher 'ECDHE-RSA-AES128-GCM-SHA256'

#### **TACACS+** Authentication

For TACACS+ authentication, this debug can be used:

Tim-eWLC1#debug tacacs Tim-eWLC1#terminal monitor Ensure that the authentication is processed with the right username and ISE IP ADDRESS. Also, the status PASS must be seen. In the same debug, right after the authentication phase, the authorization process is presented. In this authorization phase, ensure the right username is used along with the correct ISE IP ADDRESS. The attributes that are configured on ISE are seen in the debug, along with the Lobby Ambassador user with the right privilege.

Authentication phase example:

<#root> Feb 5 02:06:48.245: TPLUS: Queuing AAA Authentication request 0 for processing Feb 5 02:06:48.245: TPLUS: Authentication start packet created for O( lobbyTac ) Feb 5 02:06:48.245: TPLUS: Using server 192.168.166.8 Feb 5 02:06:48.250: TPLUS: Received authen response status GET\_PASSWORD (8) Feb 5 02:06:48.266: TPLUS(0000000)/0/7FB7819E2100: Processing the reply packet Feb 5 02:06:48.266: TPLUS: Received authen response status PASS (2) Authorization phase example: <#root> Feb 5 02:06:48.267: TPLUS: Queuing AAA Authorization request 0 for processing Feb 5 02:06:48.267: TPLUS: Authorization request created for O( lobbyTac ) Feb 5 02:06:48.267: TPLUS: Using server 192.168.166.8 Feb 5 02:06:48.279: TPLUS(0000000)/0/7FB7819E2100: Processing the reply packet Feb 5 02:06:48.279: TPLUS: Processed AV priv-lvl=15 Feb 5 02:06:48.279: TPLUS: Processed AV user-type=lobby-admin

```
Feb 5 02:06:48.279: TPLUS: received authorization response for 0:
```

PASS

The debug examples mentioned previously for RADIUS and TACACS+ have the key steps for a successful login of a Lobby Admin.

In order to disable the debugs, this command can be used:

Tim-eWLC1#undebug all