

Lab 2: Managing Templates, Firmware, and Network Troubleshooting

ABOUT THIS LAB

Goals

In this lab you will do the following:

- Create and save a configuration template locally
- Perform a factory reset locally on the XR Series router
- Deploy a configuration template locally
- Perform a software upgrade locally and back out of an upgrade
- Capture log files locally
- Use the network troubleshooting tools in AirLink OS

Items Needed

This lab is a hands-on exercise, and you need the following items to complete it:

- A computer
- An internet connection, preferably with a router or switch
- Two network* cables and available port in a wired router or switch (optional, preferred)
- An XR80 or XR90 production router (activated SIM cards and antennas are optional but beneficial)

*If working on a laptop or tablet without an Ethernet RJ45 port, you can use a data-capable USB-C cable for LAN connection to your router.

Procedure

Download the Lab Submission document from the Training Portal and paste the screen shots described in this lab procedure document in the proper locations in the submission document.

In the Lab section of the training course in the Sierra Wireless Training Portal, follow the instructions to upload your completed lab submission document in Word or PDF format. Make sure you include your name and the email address used to register you for the XRSA training course.



Please ensure that you have completed the lab exercises below **BEFORE** gathering screenshots for submission. The lab exercises are a requirement and must be submitted to successfully complete the homework assignment for this lab.

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LAB NOTES

Your XR router should already be configured with a few basic settings which include changes to the default LAN subnet address, Wi-Fi client (STA) and AP modes, voltage threshold, and location reporting. This lab will now guide you through creating and saving a local AirLink OS (AOS) template on your XR series router. It will then walk you through how to factory reset it and re-deploy your saved template. Finally, it will then finish off with network diagnostics testing as well capturing AOS log files locally.

PREREQUISITE UNDERSTANDING

Please ensure that you have followed along with the XR Solution Administrator (XRSA) certification training program and have completed previous labs before starting this one.

Create and Save a Configuration Template Locally

A configuration template is a snapshot of the changes you have made on your XR router, which is stored in JSON format and can be used as a backup or to stage subsequent XR devices of the same model and operating firmware. Unlike previous Sierra Wireless ALEOS/MGOS devices, saved templates only retain config changes made from its original system default values, reducing overhead and potential processing issues with full templates.

This part of the lab will guide you through how to create and save a local configuration template in the AOS UI.



Click the template icon located at the top-right of the AOS UI.

2) Select Create template from current configuration.



		Firmware upgrade authentication is	s OFF		
-	Status / Monitoring / System Networking	Services		+ Create te	emplate from scratch
SIERRA AirLink	Dashboard Device Information Monitoring Storage Wear WA	NN Voltage & Temperature Radio Module Wi-Fi	Ethernet Interfaces	🛋 Create te	mplate from current configuration
	Device Information			n Modify a	template from local file
Status / Monitoring	DEVICE INFO	ALMS COMM. 1	STATUS 💁	svst 🖄 Applyat	emplate
Hardware Interfaces	XR80	LAST a few sec	conds ago	A2°C 107.6°F	
Networking	6Q0221006302AB14 OS Version 2.1	NEXT 00:14:40	r(eta) 😻		
Services		Contox How			
Sustan	Location		LastLogin		
oystem			Lust Login		
	0 0	NO SIGNAL	on March 16, 2	2022 3:11:59 AM	
	ALTITUDE SATELLITES		IP 192.168.1.	100	
	0 m 0		FAILURES 0		
	WAN		LAN		
	RADIO MODULE	DATA USAGE	Wi-Fi		DATA USAGE
			WI-FI AP 2.4GHz [OBTAULTLAN] 2.4GHz 👗 0		
			Wi-Fi 2.40Hz SSID 1 [DEFAULSLAN] 2.40Hz 👗 0		
			WI-FI 2.4GHz SSID 2 [EBRUSLAN]		
TAGS			WI-FI AP 50Hz [DEFAUCTUR]		
	Wi-Fi		WI-FI 5GHz SSID 1 (689415544)		
	Wi-Fi Client 2.40Hz	Cellular Ethernet	((*)) 5GHz 🛓 0		USB Ethernet

3) Notice that you will be put into template mode, as mentioned on the top of the AOS UI. It will also provide you with the number of fields corresponding to the setting that will be saved in the configuration template.

		You are in template mode.			
Airlink	Status / Monitoring / System Networking Services	9 A 🕲 E :			
WIRELESS'	Dashboard Device Information Monitoring Storage Wear WAN Voltage &	Temperature Radio Module Wi-Fi Ethernet Interfaces		-	
Status / Monitoring	Device Information				
Hardware Interfaces	XR80 600221006902AB14 05 Version 2.1	ALMS COMM. STATUS LAST a few seconds ago NEXT 00:14:47 (ETA) CHECK NOW C	system temperature 42° C 107.6° F		
Services System	Location	Last Login			
	ALTITUDE LONGITUDE 0 0 NO ALTITUDE SATELLITES		March 16, 2022 3:11:59 AM 192.168.1.100		
	UIII U	FAILURES	0		
	WAN	LAN			
		DATA USAGE WI-FI () () (W-FIAP) () () () () () () () () () () () () ()	Wi-Fi () () () () () () () () () () () () ()		
TAGS	CANCEL • > 57 field(s) temp Wi-Fi Client 2.40Hz	lated EXPOR	RT TO FILE B		



4) Click **Export to file**. This will automatically save a snapshot of the system and user-defined configuration changes.

		Firmware upgrade authentication is OFF	
AA.	> Status / Monitoring / System Networking S	ervices	< ↓ 20 ÷ :
SIERRA WIRELESS	Dashboard Device Information Monitoring Storage Wear WAN	Voltage & Temperature Radio Module Wi-Fi Ethernet Interfaces	
	Device Information		
Status / Monitoring	DEVICE INFO	ALMS COMM. STATUS 🗢	SYSTEM TEMPERATURE
Hardware Interfaces	XR80	LAST a few seconds ago	0
	6Q0221006302AB14	NEXT 00:14:57 (ETA) 💝	U 43°C 109.4°F
Networking	OS Version 2.1	CHECK NOW C	
Services			
System	Location	Last Login	
	LATITUDE LONGITUDE		March 16 2022 3:11:50 AM
	0 0	NO SIGNAL	Wareh 10, 2022 0.11.05 AW
	ALTITUDE SATELLITES	IP	192.168.1.100
	0 m 0	FAILURES	0
	WAN	LAN	
	RADIO MODULE	DATA USAGE WI-Fi	DATA USAGE
	💿 🔝 R2C 🔟	() wi-Fi AP 2.4GH 2.4GHz 🛓 0	2 (management)
TAGS		(○) WI-FI 2.46Hz S 2.46Hz ▲ 0	SID 1 [6884129(24)]
		() WI-Fi 2.46Hz S	SID 2 [6694LISCAN]
		₹ 24GHz ≥ 0 ₩5-ELAP 50Hz	(GEFELLER).AND
20220316074417json	^		Show all X
■ ■ ■ ■ ■ ■	Search Tools 20220316074417_template_XR80 - Search	h Results in Downloads	- 5 × ~ ?
\leftarrow \rightarrow \checkmark \uparrow 📦 \rightarrow Search Res	ults in Downloads		✓ も 🖓 20220316 × →
^ Today (1)			
20220316074417.3	template_XR80 js		



Perform a Factory Reset Locally

Factory resetting a device is the process of clearing any user-defined configurations back to its original system default values. It enables the device to start at a clean-slate, and to resolve potential problems with device operation.

This part of the lab will guide you through how to factory reset your device through the AOS UI.



Before proceeding, ensure that you have saved your template as detailed in the section above.

- System SIERRA AirLink ∆dmin > Device Management > LEDs > Logs > Security Status / Monitoring Reboot LwM2M LED Powersaver Mode Regular Logs Certificates Hardware Interfaces Reset Settings Audit Logs Smart Reporting LED Pattern Networking Software Update SMS Provision Log Levels oftware Image Management Services Radio Module Image Management Diagnostic Shell System Time > MCU > User Accounts Voltage Threshold Local Time Source LDAP TACACS+ RADIUS TAGS **Reset Settings** DEVICE RESET BUTTON Enabled RESET CONFIGURATION TYPE Use Factory Defaults RESET SETTINGS 🤨
- 1) Select Reset Settings under System > Admin.

 Click Reset Settings. You will be prompted to confirm this option. Confirm the factory reset by selecting Reset Settings. The factory reset process will begin. You will be taken back to the login screen after a couple of minutes.



		Firmware upgrade authentication is OFF			Ε,
-	> System / Admin Device Management LEDs Logs	Security Time MCU User accounts	Q		1
SIERRA AirLink	Reboot Reset Settings Software update Software image Management	Radio Module Image Management Diagnostic Shell			
Status / Monitoring	Admin > Reset Settings				
Hardware Interfaces	DEVICE RESET BUTTON				
Networking	C Enabled				
Services	RESET CONFIGURATION TYPE				
System	Use Factory Defaults	•			
	RESET SETTINGS 🤣				
	Software update				
	oortmare apoarto				
	2.1.30	SOFTWARE UPDATE 1			
TAGS	INSTALLATION DATE				
	2022-03-16 03:04:09				
	LPWA				





Your XR router's default password needs to be used to login.



Deploy a Configuration Template Locally

This process will walk you through how to deploy/upload a save JSON configuration file to your XR series router. Please ensure templates are only deployed to devices that are the same model and operating firmware that the template originated from to avoid unexpected configuration and operational issues.

This part of the lab will guide you through how to deploy a saved AOS configuration template.

1) Click the template icon located at the top-right of the AOS UI.

		Firmware upgrade authentication is	OFF		
SIERRA WIRELESS	Status / Monitoring / System Networking Servic Dashboard Device Information Monitoring Storage Wear WAN V	ces oltage & Temperature Radio Module Wi-Fi	Ethernet Interfaces		9. A 🖄 🕀 🗄
Status / Monitoring Hardware Interfaces Networking	Device Information Device INFO XR80 ACC22100050204814 OS Version 2.1	ALMS COMM. S NEXT>>>- (E CHECK NOW	τατυς ∞ τλ) ♥ <u>0</u>	system temperature 51° C 123.8° F	
Services	Location LATITUDE LONGITUDE 0 0 ALTITUDE SATELLITES 0m 0	NO SIGNAL	Last Login on N/A ip N/A failures N/A		
TAGS	WAN RADIO MODULE LFWA Collisient Collisient Working Wehl Client 2,40Hz	DATA USAGE	LAN WI-71 WI-71 WI-71 WI-72-A01942 WI-72-A01942 WI-72-A0194 WI-72-A019 WI-72-A0		Data USAGE

2) Select **Apply Template**. Choose the template that you created earlier on your local computer.

	1	Firmware upgrade authentication is O	FF	
SIERRA WIRELESS	Status / Monitoring / System Networking Services Dashboard Device Information Monitoring Storage Wear WAN Voltag	ge & Temperature Radio Module Wi-Fi Et	hernet Interfaces	+ Create template from scratch
	Device Information			Modify a template from local file
Status / Monitoring	DEVICE INFO	ALMS COMM. STA	atus 🛆	syst 😰 Apply a template
Hardware Interfaces Networking	XR80 6Q0221006302AB14 0S Version 2.1	NEXT (ETA		₿ 51°C 123.8°F
Services				
System	Location		Last Login	
	LATITUDE LONGITUDE		on N/A	
	0 0	NO SIGNAL		
	ALTITUDE SATELLITES	IP N/A		
			FAILURES N/A	
	WAN		LAN	
	RADIO MODULE	DATA USAGE	WI-FI	DATA USAGE
	1 R2C 🖌		(O) 2.4GHz 👗 0	
	Cellular		2.4GHz SSID 1 [DEFACECAN]	
	TAGS		Wi-Fi 2.4GHz SSID 2 [DEFAULTLAN] 2.4GHz 👗 0	
TAGS			WI-FI AP 5GHz (68FRUESLAN) 5GHz = 0	
	Wi-Fi Wi-Fi Client 2.4GHz		WI-FI 5GHz SSID 1 [AMALLYCAN]	
	- 0 ·	Geliular 📰 Ethernel		USB Ethernet 💌



🏮 Open									\times
$\leftarrow \rightarrow$	∽ ↑ 🔋 > Search	Results in Downloads					, 2022031607441	. ×	\rightarrow
Organize									
<u> </u>	Name		Date modified	Туре					
	Today (1) 202203160744	17_template_XR80.json	3/16/2022 7:44 PM		14 KB				
	Seatch again in:	This PC 🧧 Custom							
*									
_	File name:	20220316074417_template_XR80	json				JSON File (*.json) Open	Cancel	- -

3) A notification will appear stating that your config is stage and is now ready to be applied/deployed. Click **Save**.

		Firmware upgrade authentication is OFF		Anniu template
SIERRA WIRELESS	Status / Monitoring / System Networking Servic Dashboard Device Information Monitoring Storage Wear WAN Vo	ces Ditage & Temperature Radio Module Wi-Fi Ethern	net interfaces	Your template values that are different from device current config are staged for modifications
Status / Monitoring Hardware Interfaces Networking Services	Device Information DEVICE INFO XR80 EC00221006502AB14 OS Version 2.3	ALMS COMM. STATU NEXT ~~~~~~ (ETA) (CHECK NOW C	5 🖎 5	ystem temperature 52° C 125.6° F
System	Location Longitupe 0 0 ALTITUDE SATELLITES 0m 0	NO SIGNAL	Last Login on N/A IP N/A Failures N/A	
		DATA USAGE	LAN WI-FI WI-FI AP 2.40Hz [BRUICUM] WI-FI 2.40Hz SIDD [BRUICUM] WI-FI 2.40Hz SIDD [BRUICUM] WI-FI 2.40Hz SIDD [BRUICUM]	DATA USAGE
TAGS	● と当 UNDO ● > 57 field(s) n ····································	nodified	SAVE d	US8 Ethernet



Deploy a Template Generates a "Database Error" (if applicable)



If you run into issues deploying the template, it is probably because AOS is disagreeing with your attempt to change a setting as per your template. In this case, it will ask you to verify the modified settings. **Skip to step 4 if this section does not apply to you.**

Click the > symbol in the orange container below.

	Firmware	upgrade authentication is OFF	Analy template
SIERRA WIRELESS AirLink	Status / Monitoring / System Networking Services Device Information Monitoring Storage Wear WAN Voltage & Temper	rature Radio Module Wi-Fi Ethernet Interfaces	Your brught values that are different from device current config are staged for modifications
Status / Monitoring Hardware Interfaces Networking Services	Device Information service INFO XCR0 GOD21006302AB14 GOD21006302AB14 GOD21006302AB14	Alms comm. status & next (ETA) & Check now &	Beeronge container at the bottom of the page syster for more details.
System	Location LATTUDE LONGITUDE 0 0 NO STORA ALTITUDE SATELLITES 0 m 0	L Last Login on March 17, 202 IP 192.168.1.100 FAILURES 0	22 2:56:51 AM 0
	WAN RADIO MODULE LPRIA COLUMATION CONTROL CONT	USAGE UF.FI (7) WHFT AP 2.40Hz [[HHRREA] 2.40Hz & 0 (7) WHFT 2.40Hz SED [[HHRREA] 2.40Hz & 0 2.40Hz & 0 (7) WHFT 2.40Hz SED [[[HHRREA]	DATA USAGE
TAGS	BB WHO ● > 57 field(s) modified WHFI Client 2.40Hz	Collais Elivered	US8 Ethernet

It will expand the settings (and the location of those settings in AOS) you had intended to change as per your template. In this example, there is a SIM Configuration error denoted by the e icon. Click the > symbol to expand **SIM Configuration**.



Hovering your cursor over the **Operator** hyperlink will display the path/location of the value you are intending to change, in this case, the ICCIDs are the same, which is why AOS is not permitting the config change (in other words, there is a duplicate ICCID in the SIM database).



To resolve this, select the Undo option beside the error. It will prevent AOS from applying the setting in question. You can then select **Save**.

XRSA

APN

IPv4

IP Mode

0 B

0 B

Configuration Name

LAN Segment

ð

+ CREATE SIM TEMPLATE

ê :



TEMPLATE Associated PLMN ~

Configuration US: United States of Am WI-FI INTERFACES Enable

Off Off

Status

TAGS

			irmware upgrade authentication								
AirLink	Hardware Interfaces Configuration SIM Database	; / General Cellular Interfaces W	/i-Fi Interfaces Ethernet Interface	es USB Interfaces Serial Interface	8			Q	A	Ċ.	Ð
	ICCID ~	Operator	APN	IP Mode	Rx Bytes	Tx Bytes	Configuration	Name			
tatus / Monitoring	89302720405868102215	ROGERS	auto	IPv4, IPv6	0 B	320 B				:	
ardware Interfaces	89332500000001011051	Sierra Wireless	auto	IPv4	0 B	0 B				:	
etworking ervices	TEMPLATE										
	Associated PLMN ~	APN	APN		IP Mode		Configuration Name				
		UNDO Modifie	ed Configure Wi-Fi Radio 🗸				+	CREATE SI	IM TEM	PLATE	2
	WiFi Interfaces > Configuration	unco Modifie En Ph unco Create unco Create unco creater unco inform	ed Configure Wi-Fi Radio ↓ table: On hysicat: n/ac ed SIM Stot management. ↓ d SIM configuration ↓ d SIM configuration ↓ d SIM configuration ↓				+	CREATE SI	ім тем	PLATE	
	W-FI Interfaces 3 Configuration REGION US: United States of Ame W1-F1 INTERFACES	Niboli Cottu P P Uniboli Montu Uniboli Costate Uniboli Costa Uniboli Costa Vinto dosu Prato dosu Prato dosu	ed Configure W-Fi Radio v hable: On Wysicat: n/ac ed SIM Soft management > d SIM configuration > d SIM configuration > d SIM > sino > MTU: ISO0 sino > MTU: ISO0 sino > MTU: ISO0 soft with: ISO0 o > Dual mode enable: On ed WAN IP-6 interface > d			LAN Sec	(+)	CREATE SI	IM TEM	PLATE	
	Wiff Interfaces > Configuration REGON US: United States of Ame Wiff Interfaces Enable Status	unco Moeffri En unco Modefri unco Create unco Enform unco Inform unco Inform unco Inform unco Inform unco Inform unco Modifie	ed Configure Wi-H Radio v nahle: On ed DN Bornmasgement > d DN Bornmasgement > d DN Dornmasgement > ddDD > ddD > ddD > ddD > ddD > ddDD > ddD > dd >	ж		LAN Seg	(+)	CREATE SI	IM TEM	PLATE	
15	Wi-Fi Interfaces > Configuration Record US: United States of Arme Wi-FI INTERFACES Enable Status O Of Disab	unco Moeffe en unco Moeffe unco Inform unco Inform unco Inform unco Inform unco Inform unco Inform unco Modiffe UNDO • ^ 55 Tale(c) modif	ed Configure Wi-Fi Radio v value: On ed UM Biot management > dd UM Biot management > dd Montal Anton - dd Montal Anton - dd Montal - sino - MTU 1500 daton - MTU 1500	بر عبر المراجع		LAN Seg	ment	CREATE SI	IM TEM	PLATE	



Continue here to deploy a configuration template.

4) Confirm that the template was deployed successfully by selecting **Reset Settings** under **System > Admin**. It should display the name of the template file name under the Current Template field.

			F	irmware upgrade authenticat	ion is	OFF				
SIERRA WIRELESS	System									9. 4 🖻 🗄 🗄
Status / Monitoring Hardware Interfaces Networking Services System >	Admin Rebot Reset Settings Software Update Software image Management Radio Module image Managemen Diagnostic Shell	Device Management LvM2M Smart Reporting SMS Provision tt	>	LED Powersaver Mode LED Pattern	>	Logs Regular Logs Audit Logs Log Levels	>	Certificates	>	
TAGS	Time Time Source NTP	MCU Voltage Threshold Power Management	>	Local Local LDAP TACACS+ RADIUS	>					
Admn > Reset Settings DEVICE RESET BUTTON Enabled RESET CONFIGURATION TYPE Use Custom Template RESET SETTINGS 2		current tem ▼ 202203150	MPLAT 0516	re 537_template_XR80.js	son		SET	TEMPLATE ±		



Perform a software upgrade locally

The XR series router supports local firmware upgrades right through the AOS user interface. It also keeps a backup image you can safely roll back to when it comes to testing new releases. If you are satisfied with the current firmware, you can synchronize it to override the backup firmware with active firmware.

This part of the lab will explain how to perform a software upgrade and switch to backup firmware.



The Sierra Wireless Source page is the hub for downloading device firmware, user manuals, hardware documentation and accessing the public forums. As such, an account is required to download AOS firmware. For new users, you can create an account here: <u>https://www.sierrawireless.com/sso/signup</u>

Local firmware upgrades require an AOS .ufw file which can be found on the Sierra Wireless Source page.

XR80: <u>https://source.sierrawireless.com/resources/airlink/software_downloads/xr80/xr80-firmware-list/#sthash.Jx5oWQwt.dpbs</u>

XR90: <u>https://source.sierrawireless.com/resources/airlink/software_downloads/xr90/xr90-firmware-list/#sthash.yp1t7OLH.dpbs</u>

1) Verify your current operating firmware by selecting **Software Update** under **System > Admin**.

			Firmware upgrade authenticati	on is OFF			
SIERRA WIRELESS AirLink	System						Q. 🌲 🛍 ⊡ 🗄
Status / Monitoring Hardware Interfaces Networking Services System >	Admin > Reboot Rest Settings Software Update Software Image Management Diagnostic Shell	Device Management	LED Powersaver Mode LED Pattern	Logs Regular Logs Audit Logs Log Levels	Security Certificates	>	
	Time > Time Source NTP	MCU Voltage Threshold Power Management	User Accounts Local LDAP TACACS+ RADIUS	>			
TAGS							



Admin≯ Software update		
2.1.28	SOFTWARE UPDATE ±	
INSTALLATION DATE 2022-02-25 19:14:27		
lpwa HL7800/GENERIC HL7800.4.4.14.0		
cellular EM9190/GENERIC 01.07.13.00		
U-BOOT VERSION (PRIMARY)	U-BOOT VERSION (SECONDARY)	MCU VERSION
3.0.1	3.0.6	01.04.8fae24f3a5
gnss version 4.5.13.1.5		

2) Click the **Software Update** option and choose the appropriate AOS .ufw firmware file for your XR router. This will automatically start the updating process.

At the time of writing, the latest GA release for the XR is AOS 2.1.30.									
Name	Date modified	Туре	Size						
XR80-2.1.30 ufw	3/15/2022 7:52 PM	UFW File	688,320 KB						
Search again in: ➡ Libraries 🗳 This PC 📑 Custom									
File name: XR80-2.1.30.ufw					V UFW File (*.ufw) ~			
					Oper	n Cancel			
Update Software proces	sing	uboot	rootfs		EM0100/GENIERIC	Reboot			
		3		extract rootfs	- <u>5</u>	6			





3) Once complete, your device will automatically reboot, and you will be prompted to log back in. You can then verify the software version under the **Software Update** section.

^{Admin →} Software update		
2.1.30	SOFTWARE UPDATE	
installation date 2022-03-16 02:54:10		
LPWA		
CELLULAR		
U-BOOT VERSION (PRIMARY)	U-BOOT VERSION (SECONDARY)	MCU VERSION
3.0.1	3.0.6	01.04.8fae24f3a5
GNSS VERSION		
4.5.13.1.5		



Backout of a Firmware Upgrade

Even after you have upgraded your firmware file, a backup of the previous version is stored as a candidate to be used if you want to revert to it.

			Firmware upgrade authentica	ntion is OFF			
SIERRA WIRELESS	System						9. 1. 12 2 2
Status / Monitoring Hardware Interfaces Networking Services System >	Admin > Rebot Reset Settings Software Update Software Inage Management Diagnostic Shvil	Device Management	LED Powersaver Mode LED Pottern	> Logs Regular Logs Audit Logs Log Levels	> Security Certificates	>	
	Time >	MCU >	User Accounts	>			
	NTP	Power Management	LDAP TACACS+ RADIUS				
TAGS							Management

1) Select **Software Image Management** under **System > Admin**.

2) Select **Switch to Backup Image**. Click **Switch** if you would like to revert to the previous firmware version.

Admin > Software Image Managem state desynchronized Active 2.1.30 2022-02-24 20:41:26	ent SWITCH TO BACKUP IMAGE SYNCHRONIZE	
васкир 2.1.28 2021-09-29 04:55:35		
RIC 01.07.13.00		
RIMARY)	u-boot version (secondary) 3.1.7	mcu version 01.04.8f1f65228e
	Confirm	
	Configuration changes since the last upgrade will be reverted.	
nage Management	CANCEL SWITCH	
	SWITCH TO BACKUP IMAGE	SYNCHRONIZE

21 21:15:22





EM9190/GENERIC 01.07.13.00

3.0.1

gnss version 4.5.13.1.5

It will take a couple of minutes to switch the AOS firmware to the backup image.

3) Notice that your **Active** firmware is now the previous firmware version you originally had before the upgrade.

Admin > Software Image Management state desynchronized	SWITCH TO BACKUP IMAGE	SYNCHRONIZE	
ACTIVE			
2.1.28 2021-09-29 04:55:35			
BACKUP			
2.1.30 2022-02-24 20:41:26			
Admin > Software update			
2.1.28	SOFTWARE UPDATE ±		
INSTALLATION DATE			
2022-02-25 19:14:27			
LPWA			
LPWA			

MCU VERSION

01.04.8fae24f3a5

U-BOOT VERSION (SECONDARY)

3.0.6



Synchronize Firmware

Synchronizing the firmware will purge the backup image from storage. This option can be selected if the user is satisfied with the new firmware version.

1) Select **Synchronize**.

active 2.1.30 2022-02-24 20:41:26		
backup 2.1.28 2021-09-29 04:55:35		
Admin > Software Image Management		
STATE synchronizing	SWITCH TO BACKUP IMAGE	SYNCERONIZE
active 2.1.30 2022-02-24 20:41:26		
васкир 2.1.28 2021-09-29 04:55:35		
This process may tak	re several minutes to complete	

Admn > Software Image Management		
state na	SWITCH TO BACKUP IMAGE	SYNCHRONIZE
active 2.1.30 2022-02-24 20:41:26		
BACKUP		



Capture Log Files Locally

Device log files can be a helpful tool when it comes to troubleshooting connectivity issues pertaining to cellular, GPS, Ethernet, Wi-Fi, and USB. It can also be used to troubleshoot network services such as NTP and ALMS. AOS also keeps a record of audit logs for connection attempts to the AOS UI locally or via LDAP authentication.



Log Levels can be defined in AOS, but we highly recommend leaving it as the default verbosity level of "Notice" for all subsystems. This enables the Engineering teams at Sierra Wireless to troubleshoot potential device issues more efficiently and quickly.

This part of the lab will guide you through how to capture/save log files locally to a computer.

1) Select **Regular Logs** under **System > Logs**.

			Firmware upgrade authenticati	on is OFF			
SIERRA WIRELESS	System						9. A 🖻 🗄 i
Status / Monitoring Hardware Interfaces Networking Services System >	Admin > Reboot Reset Settings Software Update Software Image Management Radio Module Image Management Diagnostic Shell	LwM2M Smart Reporting SMS Provision	LED Powersaver Mode LED Pattern	Logs Regular Logs Audit Logs Log Levels	Security Certificates	>	°LINES → C 호
	Time >	MCU > Voltage Threshold Power Management	User Accounts Local LDAP TACACS+ RADIUS	,			
TAGS							

2) Download the **Regular Logs** by selecting the ¹/₂ button. The same procedure can be followed to download **Audit Logs**.



Regular logs					
FILTER	AUTO REFF	RESH NUMBE	R OF LINES		
Enter a filter	Di	isabled 500		• C	<u>+</u>
Nar 18 23:29:57 notice Location_gnssmgr: Irying to Switch to a Lower quality Source Nar 18 23:29:58 err Cellular_manager: [c1] Unable to read SIM ICCD Nar 18 23:30:27 notice Location_gnssmgr: No GMSS Fix. Quality Indicator is 1 and 3 Satellites in Use. 0 Nar 18 23:31:61 notice Location_gnssmgr: No GMSS Fix. Quality Indicator is 0 and 0 Satellites in Use. 0 Nar 18 23:32:36 err Lo2AL_Unamdr: Insolution failed for 'bs.airvantage.net', checking FOM service. Nar 18 23:32:36 err Lo2AL_Unamdr: Insolution failed for 'bs.airvantage.net', checking FOM service. Nar 18 23:32:37 err Lu2AL_Unamdr: Insolution failed for 'bs.airvantage.net' Nar 18 23:32:58 warning Matchdog_netud: Insolve ping monitoring failed on Cellular failed - not enough traffic dete Nar 18 23:35:58 warning Matchdog_netud: Insolve ping monitoring failed on Cellular - Interface is unusable Nar 18 23:35:58 warning Matchdog_netud: Insolve ping monitoring failed on Cellular - Interface is unusable Nar 18 23:35:58 warning Matchdog_netud: ICMP ping monitoring failed on Cellular - Interface is unusable Nar 18 23:35:58 warning Matchdog_netud: ICMP ping monitoring failed on Cellular - Interface is unusable Nar 18 23:36:36 moning Matchdog_netud: ICMP ping monitoring failed on Cellular - Interface is unusable Nar 18 23:46:36 motice Location_gnssmgr: FAILet to set time of day (Fri Nar 18 23:46:36 2022) Nar 18 23:46:36 motice Location_gnssmgr: Failed to set time of day (Fri Nar 18 23:46:36 2022) Nar 18 23:46:36 motice Location_gnssmgr: Failed to set time of day (Fri Nar 18 23:46:37 2022) Nar 18 23:46:36 motice Location	<pre>9 seconds passed without fix. seconds passed without fix. </pre>				

Logs >

Audit logs				
FILTER	AUTO REFRESH	NUMBER OF LINES		
Enter a filter	Disabled	500	• C	<u>+</u>
War 10 AR:11:2A admin anccessinity logged ju				
Mar 17 02:42:07 admin successfully logged in				1
Mar 17 02:42:34 Configuration changed by admin (REST) succeeded : services.web.session.timeout = 1440				
Mar 17 02:48:32 admin successfully logged in				
Mar 17 02:53:27 Configuration changed by admin (REST) succeeded : system.init.reset.type = "defaults"				
Mar 17 02:54:01 *RESET TO FACTORY* request from [User Interface] by admin				
Mar 17 02:56:51 admin successfully logged in				
Mar 17 03:04:20 Configuration changed by admin (REST) failed : net.cellular.simdb.knownsim[DmhcjlYsdGjD].iccid = {"error":"va	alidation error: "89302720405868102215	" value already exist	s in	
"net.cellular.simdb.knownsim[tp92LgzZMuAI].iccid""}				
Mar 17 03:04:26 Configuration changed by admin (REST) failed : net.cellular.simdb.knownsim[DmhcjlYsdGjD].iccid = {"error":"va	alidation error: "89302720405868102215	" value already exist	s in	
"net.cellular.simdb.knownsim[tp92LgzZMuAI].iccid""}				
Mar 17 03:04:35 Configuration changed by admin (REST) failed : net.cellular.simdb.knownsim[DmhcjlYsdGjD].iccid = {"error":"va	alidation error: "89302720405868102215	" value already exist	s in	
"net.cellular.simdb.knownsim[tp92LgzZMuAI].iccid""}				
Mar 17 03:04:46 admin successfully logged in				
Mar 17 03:05:13 Configuration changed by admin (REST) failed : net.cellular.simdb.knownsim[DmhcjlYsdGjD].iccid = {"error":"va	alidation error: "89302720405868102215	" value already exist	s in	
"net.cellular.simdb.knownsim[tp92LgzZMuAI].iccid""}				
Mar 17 03:06:11 Configuration changed by admin (REST) failed : net.cellular.simdb.knownsim[DmhcjlYsdGjD].iccid = {"error":"va	alidation error: "89302720405868102215	" value already exist	s in	
"net.cellular.simdb.knownsim[tp92LgzZMuAI].iccid""}				
Mar 17 03:06:32 admin successfully logged in				
Mar 17 03:06:41 Configuration changed by admin (REST) failed : net.cellular.simdb.knownsim[DmhcjlYsdGjD].iccid = {"error":"va	alidation error: "89302720405868102215	" value already exist	s in	
"net.cellular.simdb.knownsim[tp92LgzZMuAI].iccid""}				
Mar 17 03:08:32 Configuration changed by admin (REST) succeeded : net.cellular.simdb.common[RFVwzg5cgna2].active = null net.c	cellular.simdb.common[RFVwzg5cgna2].ap	n = null		
net.cellular.simdb.common[RFVwzg5cgna2].apnlist = null net.cellular.simdb.common[RFVwzg5cgna2].apnmode = "auto" net.cellular.	.simdb.common[RFVwzg5cgna2].auth.passw	ord = null		
net.cellular.simdb.common[RFVwzg5cgna2].auth.protocol = "none" net.cellular.simdb.common[RFVwzg5cgna2].auth.username = null n	net.cellular.simdb.common[RFVwzg5cgna2].ipv4.type = "dhcp"		
net.cellular.simdb.common[RFVwzg5cgna2].ipv6.type = "off" net.cellular.simdb.common[RFVwzg5cgna2].label = null net.cellular.s	simdb.common[RFVwzg5cgna2].mtu.mode =	"auto"		
net.cellular.simdb.common[RFVwzg5cgna2].mtu.user = 1500 net.cellular.simdb.common[RFVwzg5cgna2].operator = "Sierra Wireless"	net.cellular.simdb.common[RFVwzg5cgna	2].preferredtech = "a	uto"	
net.cellular.simdb.common[RFVwzg5cgna2].roaming = true net.cellular.simdb.common[RFVwzg5cgna2].rx.bytes = 0 net.cellular.simd	db.common[RFVwzg5cgna2].rx.errors = 0			

3) Both files will appear downloaded on your local computer.

File	l	Share	S	earch Tools . Search	log - Search Re	sults in Download	S	
$\leftarrow \rightarrow$	~ ↑	🔲 > Sear	ch Results ir	Downloads				
→	\sim Today	(3)						
4								
E								
i	20	022031804	5411_unity-	audit <mark>.log</mark>		2022031804	45409_unity-regu	larlog
_								
>								
> •								



Use the Network Diagnostic Tools in AOS

AOS includes a few helpful network troubleshooting tools such as Ping, Tracert, and IP Capture (tcpdump). This part of the lab will guide you through how to leverage Ping and the IP Capture tool to troubleshoot LAN/WAN routing and connectivity issues.



You will be asked to simulate a WAN network outage by disabling the active Wi-Fi WAN, Ethernet WAN, and Cellular interfaces. (as well as the Ethernet WAN interface if being used).

Ping

1) Select **Ping** under **Networking > Diagnostics**.

SIERRA WIRELESS	Networking			
Status / Monitoring Hardware Interfaces Networking	Diagnostics > Ping Traceroute IP Capture	Firewall > Firewall Rules Firewall Status Port Forwarding Rules	General >	Multi-WAN Policies > Multi-WAN Policies Roaming Avoidance Rules Signal Strength Rules
Services Apps	Radio Module Log	DMZ Host Reverse Path Forwarding	DHCP Reservation (Fixed IP Assignments)	Wi-Fi SSID Rules Speed Rules
System	Zones Settings > Bridges Zones Services Device IP/Network Fully Qualified Domain Names	VPN >	Network Watchdog >	Quality Of Service (QoS)
TAGS				

2) Type *8.8.8.8* in the Destination field. Click **Ping**. You should see 3 packets transmitted and 3 packets received successfully

Diagnostics > Ping DESTINATION 8.8.8.8	DESTINATION RESOLUTION Auto	Packet count
packet size 56	DON'T FRAGMENT	SOURCE INTERFACE
PING		
OUTPUT		×
PING 8.8.8.8 (8.8.8.8) 56(84) bytes of data. 64 bytes from 8.8.8.1 (org.seq-1 t1-50 t1me-20.0 ms 64 bytes from 8.8.8.8 (org.seq-2 t1-50 t1me-21.7 ms 8.8.8.8 pig statistics 3 packets transmitted, 3 received, 65 packet loss, time 2003ms rtt min/avg/max/mdev - 19.977/22.255/25.694/2.126 ms		



IP Capture (tcpdump)

- 1) Start a continuous ping on your computer.
 - a. For Windows users
 - i. Open a command prompt. Type in "ping 8.8.8.8 -t" (without quotes). Hit Enter.

🔤 Command Prompt - ping 8.8.8.8 -t		\times
Microsoft Windows [Version 10.0.18363.2094]		~
(c) 2019 Microsoft Connoration All rights reserved		Ê
C:\Users\NLo>ning 8.8.8.8 -t		
Pinging 8.8.8.8 with 32 bytes of data:		
Reply from 8.8.8.8: bytes=32 time=19ms TTL=58		
Reply from 8.8.8.8: bytes=32 time=21ms TTL=58		
Reply from 8.8.8.8: bytes=32 time=27ms TTL=58		
Reply from 8.8.8.8: bytes=32 time=21ms TTL=58		
Reply from 8.8.8.8: bytes=32 time=20ms TTL=58		
Reply from 8.8.8.8: bytes=32 time=30ms TTL=58		
Reply from 8.8.8.8: bytes=32 time=22ms TTL=58		
Reply from 8.8.8.8: bytes=32 time=21ms TTL=58		
Reply from 8.8.8.8: bytes=32 time=22ms TTL=58		
Reply from 8.8.8.8: bytes=32 time=26ms TTL=58		
Reply from 8.8.8.8: bytes=32 time=16ms TTL=58		
Reply from 8.8.8.8: bytes=32 time=20ms TTL=58		
Reply from 8.8.8.8: bytes=32 time=19ms TTL=58		
Reply from 8.8.8.8: bytes=32 time=46ms TTL=58		
Reply from 8.8.8.8: bytes=32 time=22ms TTL=58		
Reply from 8.8.8.8: bytes=32 time=21ms TTL=58		
Reply from 8.8.8.8: bytes=32 time=28ms TTL=58		
Reply from 8.8.8.8: bytes=32 time=21ms TTL=58		
Reply from 8.8.8.8: bytes=32 time=21ms TTL=58		
Reply from 8.8.8.8: bytes=32 time=19ms TTL=58		
Reply from 8.8.8.8: bytes=32 time=26ms TTL=58		
Reply from 8.8.8.8: bytes=32 time=19ms TTL=58		

- b. For Linux/Mac users
 - i. Open a terminal window. Type in "ping 8.8.8.8" (without quotes). Hit Enter.

Onlo@carmd-el-002889: ~	_	\times
nlo@carmd-el-002889:~\$ ping 8.8.8.8		
PING 8.8.8.8 (8.8.8.8) 56(84) bytes of data.		
64 bytes from 8.8.8.8: icmp_seq=1 ttl=58 time=25.8 ms		
64 bytes from 8.8.8.8: icmp_seq=2 ttl=58 time=32.9 ms		
64 bytes from 8.8.8.8: icmp_seq=3 ttl=58 time=25.8 ms		
64 bytes from 8.8.8.8: icmp_seq=4 ttl=58 time=20.3 ms		
64 bytes from 8.8.8.8: icmp_seq=5 ttl=58 time=57.3 ms		
64 bytes from 8.8.8.8: icmp_seq=6 ttl=58 time=20.4 ms		
64 bytes from 8.8.8.8: icmp_seq=7 ttl=58 time=20.9 ms		
64 bytes from 8.8.8.8: icmp_seq=8 ttl=58 time=20.4 ms		
64 bytes from 8.8.8.8: icmp_seq=9 ttl=58 time=24.0 ms		
64 bytes from 8.8.8.8: icmp_seq=10 ttl=58 time=21.2 ms		
64 bytes from 8.8.8.8: icmp_seq=11 ttl=58 time=20.5 ms		
64 bytes from 8.8.8.8: icmp_seq=12 ttl=58 time=23.8 ms		
64 bytes from 8.8.8.8: icmp_seq=13 ttl=58 time=87.6 ms		
64 bytes from 8.8.8.8: icmp_seq=14 ttl=58 time=19.9 ms		
64 bytes from 8.8.8.8: icmp_seq=15 ttl=58 time=22.2 ms		
64 bytes from 8.8.8.8: icmp_seq=16 ttl=58 time=23.1 ms		
64 bytes from 8.8.8.8: icmp_seq=17 ttl=58 time=20.5 ms		
64 bytes from 8.8.8.8: icmp_seq=18 ttl=58 time=27.3 ms		
64 bytes from 8.8.8.8: icmp_seq=19 ttl=58 time=23.0 ms		
64 bytes from 8.8.8.8: icmp_seq=20 ttl=58 time=32.3 ms		
64 bytes from 8.8.8.8: icmp_seq=21 ttl=58 time=24.0 ms		
64 bytes from 8.8.8.8: 1cmp_seq=22 ttl=58 time=19.6 ms		
64 bytes from 8.8.8.8: icmp_seq=23 ttl=58 time=27.7 ms		
64 bytes from 8.8.8.8: 1cmp_seq=24 ttl=58 time=19.7 ms		
64 bytes from 8.8.8.8: icmp_seq=25 ttl=58 time=19.8 ms		

 Scroll down to the IP Capture section or from the menu, you can select IP Capture under Networking > Diagnostics.

SIERRA WIRELESS AirLink	Networking			
Status / Monitoring Hardware Interfaces	Diagnostics >	Firewall >	General >	Multi-WAN Policies
Networking >	I P Capture Radio Module Log	Pritewan Saatus Port Forwarding Rules DMZ Host Reverse Path Forwarding	UNS settings WAN Services DHCP Reservation (Fixed IP Assignments)	Roaming Avoidance Rules Signal Strength Rules Wi-Fi SSID Rules Speed Rules
Apps System	Zones Settings >	VPN >	Network Watchdog	Quality Of Service (QoS)
	Zones Services Device IP/Network Fully Qualified Domain Names			Bandwidth Policies Interface Service Policies
TAGS				

3) Under **Services**, select **ICMP**. Ensure the Interface is set to **Default-LAN**. The Packet Filter Input Mode should also be set to **Basic**.

Firmware upgrade authentication is OFF								
*	> Networking / Diagnostics Firewall General Multi-WAN	Policies Zones settings VPN Network Watchdog Quality of Sen	vice (QoS) 🔍 🏚 🖻 🗄					
SIERRA AirLink	Ping Traceroute IP Capture Radio Module Log							
	Dispersion N							
Status / Monitoring	IP Capture							
Hardware Interfaces	INTERFACE	PACKET SIZE	PACKET COUNT					
Networking	Default-LAN		100					
Services	PACKET FILTER INPUT MODE	IP/NETWORK	SERVICES					
System	Basic	<u>(iii)</u>						
	PACKET FILTER EXPRESSION		HTTPS					
	proto \icmp		SMTP					
	PUNNING	STOP	SSH					
			Teinet					
	OUTPUT		System Services					
			AirVantage Management Servers					
	Capture start 22:20:27.245614 IP carmd-el-002889 > dns.google: ICMP echo reque	AirVantage Software Servers						
	22:20:27.273911 IP dns.google > cannd-el-002889: ICMP echo reply 22:20:28.249549 IP cannd-el-002889 > dns.google: ICMP echo reque	, 1d 1, seq 1202, length 40 st, id 1, seq 1203, length 40	ICMP					
	22:20:29.252492 IP carmd-el-002889 > dns.google: ICMP echo reply. 22:20:29.252492 IP carmd-el-002889 > dns.google: ICMP echo reque	, 10 1, seq 1203, length 40 st, 1d 1, seq 1204, length 40						
TACC	22:20:29.271356 IP dns.google > carmd-e1-002889: ICMP echo reply 22:20:30.257569 IP carmd-e1-002889 > dns.google: ICMP echo reque	, 1d 1, seq 1204, length 40 st, id 1, seq 1205, length 40						
TAUS	22:28:38.277653 IP dns.google > carmd-el-002889: ICMP echo reply 22:20:31.261141 IP carmd-el-002889 > dns.google: ICMP echo reque	, id 1, seq 1205, length 40 st, id 1, seq 1206, length 40						
	22:20:31.289736 IP dns.google > carmd-el-002889: ICMP echo reply. 22:20:32.265517 IP carmd-el-002889 > dns.google: ICMP echo reque:	, id 1, seq 1206, length 40 st, id 1, seq 1207, length 40						
	22:20:32.284503 IP dns.google > carmd-el-002889: ICMP echo reply	, id 1, seg 1207, length 40	v					



4) Click **Start**. This will capture incoming/outgoing ICMP packets on any interface (including the bridge and Wi-Fi Client interfaces). You should see some generated from your computer.

	F	irmware upgrade authentication is OFF		0	e	3	
SIERRA WIRLESS	Networking / Diagnostics Firewall General Multi-WAI You wanted and the second	NPolicies Zones settings VPN Network Watchdog Quality of Sen	vice (QoS)	IP Capture is running		Ð	-
Status / Monitoring Hardware Interfaces Networking	Dispratics > IP Capture Intranaca Default-LAN	PACKET SIZE	packet count 100				^
Services	PACKET FILTER INPUT MODE	IP/NETWORK	SERVICES				
System	Basic	<u> </u>	ICMP			Ŧ	
	PACKET FILTER EXPRESSION proto \icmp	STOP					
	OUTPUT				×	Ŧ	
capture start 22:20:27.26544 IP acmd-4-002009 > dms.google: IO/9 echo request, id 1, seq 1202, length 40 22:20:27.27301 IP dms.google > carmd-4-002009: IO/9 echo request, id 1, seq 1202, length 40 22:20:27.27307 IP dms.google > carmd-4-002009 - dms.google: IO/9 echo request, id 1, seq 1208, length 40 22:20:27.27307 IP dms.google - carmd-4-002009 - long + corps), id 1, seq 1208, length 40 22:20:27.27307 IP dms.google - carmd-4-002009 - long + corps), id 1, seq 1208, length 40 22:20:27.27307 IP dms.google - carmd-4-002009 - corps, id 1, seq 1208, length 40 22:20:27.27307 IP dms.google - carmd-4-002009 - dms.google: IO/9 echo request, id 1, seq 1208, length 40 22:20:27.27307 IP dms.google - carmd-4-002009 - dms.google: IO/9 echo request, id 1, seq 1208, length 40							
TAGS	22:28:13.25756 IP carmé-a-0-06280 > 0ss.gongle: 10P etch regul 22:28:13.25756 IP ds.gongle > carmé-al-062889: 10P etch regul 22:28:13.26144 IP carmé-al-062889 > 0ss.gongle: 10P etch requ 22:28:13.26144 IP carmé-al-062889 > 0ss.gongle: 10P etch requ 22:28:13.25551 IP carmé-al-062889 > 0ss.gongle: 28:00 etch requ	st, id 1, ieq 1205, length 40 , id 1, seq 1206, length 40 st, id 1, seq 1206, length 40 st, id 1, seq 1209, length 40 st, id 1, seq 1207, length 40					+

5) **Stop** the capture and continuous ping.



LAB EXERCISES



Please ensure that you have followed the procedure detailed in this document before following through with the lab exercises.

Capture Screenshot #1 – Deploy a Template

Select **Reset Settings** under **System > Admin**. If a template has been successfully deployed, you should see the Current Template field populated with the template's file name. Please provide a screenshot showing the name of the current template that has been applied.

SIERRA WIRELESS	System			
	Admin >	Device Management >	I/O >>	LEDs >
Status / Monitoring	Reboot	LwM2M	Configuration	LED Powersaver Mode
Hardware Interfaces	Reset Settings	Smart Reporting	Analog Inputs	LED Pattern
Networking	Software Update	SMS Provision	Digital Inputs	
Services	Software Image Management			
Apps	Diagnostic Shell			
System >				
	Logs	Security >	Time	MCU >
	Regular Logs	Certificates	Time Source	Voltage Threshold
	Audit Logs		NTP	Power Management
	Log Levels			
	Froubleshooting Package			
	User Accounts >			
	Local			
	TACACS+			
TAGS	RADIUS			
Admin > Reset Settings DEVICE RESET BUTTON Enabled				
RESET CONFIGURATION TYPE	CURREN	T TEMPLATE	· · · · · · ·	
Use Custom Template	• 20220	315051637_template_XR80.json	SET TEMPLATE)
RESET SETTINGS O				



Capture Screenshot #2 – Determine your Current XR AOS firmware

Select **Software Update** under **System > Admin**. Take a screenshot of the current AOS firmware running on your device. Please also provide a screenshot of the Software Image Management that displays the Active and Backup images. Your backup image should be running 2.1.30 (or later firmware).

			Firmware upgrade authentic	ation is orr			
SIERRA WIRELESS	System						
Status / Monitoring Hardware Interfaces Networking Services System >	Admin Rebot Reset Settings Software Update Software Image Management Radio Module Image Managemen Diagnostic Shell	Device Management Device Management LwM2M Smart Reporting SMS Provision	LED Powersaver Mode LED Pattern	Logs Regular Logs Audit Logs Log Levels	Security Certificates	>	
	Time Time Source NTP	MCU Voltage Threshold Power Management	User Accounts	>			
TAGS							
Admin >	oto						

	Software update		
	2.1.28	SOFTWARE UPDATE 1	
	INSTALLATION DATE 2022-02-25 19:14:27		
	lpwa HL7800/GENERIC HL7800.4.4.14.0		
	cellular EM9190/GENERIC 01.07.13.00		
	u-boot version (primary) 3.0.1	u-boot version (secondary) 3.0.6	MCU VERSION 01.04.8fae24f3a5
	gnss version 4.5.13.1.5		
_			
	Admin > Software Image Management state desynchronized		SYNCHRONIZE
	active 2.1.28 2021-09-29 04:55:35		
	васкир 2.1.30 2022-02-24 20:41:26		



Capture Screenshot #3 – Capture Ping Packets

Start a continuous ping to Google DNS (8.8.8.8) from your computer. Select **IP Capture** under **Networking > Diagnostics**. Click Start. You should notice that the ICMP Echo Request and ICMP Echo Replies are being captured in the Output window. You can now stop the continuous ping from your computer. Please provide a screenshot of your results from the IP Capture window.

SIERRA WIRELESS	Networking			
Status / Monitoring Hardware Interfaces Networking > Services	Diagnostics Ping Traceroute IP Capture Radio Module Log	Firewall > Firewall Rules Firewall Status Port Forwarding Rules DMZ Host Reverse Path Forwarding	General WAN WAN DNS Settings WAN Services DHCP Reservation (Fixed IP Assignments)	Multi-WAN Policies > Multi-WAN Policies Roaming Avoidance Rules Signal Strength Rules Wi-Fi SSID Rules Speed Rules
System	Zones Settings Bridges Zones Services Device IP/Network Fully Qualified Domain Names	VPN >	Network Watchdog	Quality Of Service (QoS)
TAGS				

	Firr	nware upgrade authentication is OFF		Success	3		
	> Networking / Diagnostics Firewall General Multi-WAN F	Policies Zones settings VPN Network Watchdog Quality of Ser	rice (QoS)	IP Capture is running		€	:
SIERRA AirLink	Ping Traceroute IP Capture Radio Module Log						
Status / Monitoring Hardware Interfaces Networking Services System	Diagnostics > IP Capture Interface Default-LAN PACKET FILTER INPUT MODE Basic PACKET FILTER EXPRESSION proto \lemp	PACKET SIZE IP/NETWORK	PACKET COUNT 100 SERVICES ICMP			Ť	
	RUNNING	STOP					
	OUTPUT				×	+	
capture start 22:03:72.74064.10 Pccmmd-al-002300 > dos.google: ICVP echo request, 1d 1, seq 1202, length 40 22:03:72.77911.10 dos.google > camd-al-002300? Voc echo reply, 1d 1, seq 1203, length 40 22:03:02.40964.10 Pccmmd-al-002300 > dos.google: ICVP echo request, 1d 1, seq 1203, length 40 22:03:02.60973.07 Uos sogole > camd-al-002300? Voc echo reply, 1d 1, seq 1203, length 40 22:03:02.0973.07 Uos sogole > camd-al-002300? Voc echo reply, 1d 1, seq 1204, length 40 22:03:02.0973.07 Uos sogole > camd-al-002300? Voc echo reply, 1d 1, seq 1204, length 40 22:03:02.0713.07 Uos sogole > camd-al-002300? Voc echo reply, 1d 1, seq 1204, length 40 22:03:02.0713.07 Uos sogole > camd-al-002300? Voc echo reply, 1d 1, seq 1204, length 40							
TAGS	22:20:30.257560 IP carmd-el-002800 > dns.google: ICVP echo reques 22:20:30.277653 IP dns.google > Carmd-el-002805 : ICVP echo reques 22:20:31.287563 IP dns.google > Carmd-el-002805 : ICVP echo reques 22:20:31.28756 IP dns.google > Carmd-el-002805 : ICVP echo reques 22:20:32.28551 IP carmd-el-002805 : dns.google: ICVP echo reques 22:20:32.284580 IP dns.google > carmd-el-002809 : ICVP echo reques	t, id 1, seq 1205, length 40 id 1, seq 1207, length 40 id 1, seq 1207, length 40					Ţ

Please download the "XRSA-Lab2 Submission Document.docx" file in the Training portal to get started.

