Configuring and Validating SNMP

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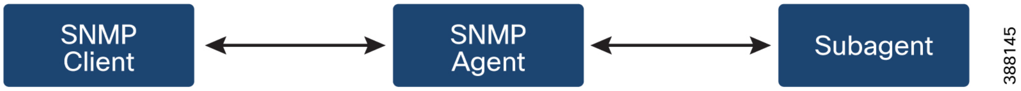
Simple network management protocol (SNMP) applications are used in URWB software for network management functionalities.

The SNMP client sends a request to the SNMP agent. The SNMP agent passes the request to the subagent. The subagent responds to the SNMP agent. The SNMP agent creates an SNMP response packet and sends it to the remote network management station that initiates the request.

Figure 1: SNMP Process



Configuring SNMP from CLI

To configure SNMP, use the following CLI commands:

Note

- SNMP CLI logic modified for SNMP configuration, before enabling the SNMP feature using CLI, you must configure all SNMP parameters.
- Disabling the SNMP feature automatically removes all related configurations.

To enable or disable SNMP functionality, use the following CLI command:

```
Device#configure snmp [enable | disable]
```

To specify the SNMP protocol version, use the following CLI command:

```
Device#configure snmp version {v2c | v3}
```

To specify the SNMP v2c community ID number (SNMP v2c only), use the following CLI command:

```
Device#configure snmp v2c community-id <length 1-64>
```

To specify the SNMP v3 username (SNMP v3 only), use the following CLI command:

```
Device#configure snmp v3 username <length 32>
```

To specify the SNMP v3 user password (SNMP v3 only), use the following CLI command:

```
Device#configure snmp v3 password <length 8-64>
```

To specify the SNMP v3 authentication protocol (SNMP v3 only), use the following CLI command:

```
Device#configure snmp auth-method <md5|sha>
```

To specify the SNMP v3 encryption protocol (SNMP v3 only), use the following CLI command:

```
Device#configure snmp encryption {des | aes | none}
```

Possible encryption values are des or aes. Alternatively, enter none if a v3 encryption protocol is not needed.

To specify the SNMP v3 encryption passphrase (SNMP v3 only), use the following CLI command:

```
Device#configure snmp secret <length 8-64>
```

To specify the SNMP periodic trap settings, use the following CLI command:

```
Device#configure snmp periodic-trap {enable | disable}
```

To specify the notification trap period for periodic SNMP traps, use the following CLI command:

```
Device#configure snmp trap-period <1-2147483647>
```

Notification value trap period measured in minutes.

To enable or disable SNMP event traps, use the following CLI command:

```
Device#configure snmp event-trap {enable | disable}
```

To specify the SNMP NMS hostname or IP address, use the following CLI command:

```
Device#configure snmp nms-hostname {hostname |Ip Address}
```

To disable SNMP configuration, use the following CLI command:

```
Device#configure snmp disabled
```

Once you disable SNMP, it clears all the sensitive information including credentials. You have to re-specify all the valid values again to enable SNMP.

Example of SNMP configuration:

CLI for SNMP v2:

```
Device#configure snmp v2 community-id <length 1-64>
Device#configure snmp nms-hostname hostname/Ip Address
Device#configure snmp trap-period <1-2147483647>
Device#configure snmp periodic-trap enable/disable
Device#configure snmp event-trap enable/disable
Device#configure snmp version v2c
Device#configure snmp enabled
```

CLI for SNMP v3:

```
Device #configure snmp nms-hostname hostname/Ip Address
Device#configure snmp trap-period <1-2147483647>
Device#configure snmp v3 username <length 32>
Device#configure snmp v3 password <length 8-64>
Device#configure snmp auth-method <md5|sha>
Device#configure snmp encryption <aes|des|none>
Device#configure snmp secret <length 8-64>
Device#configure snmp periodic-trap enable/disable
Device#configure snmp event-trap enable/disable
Device#configure snmp version v3
Device#configure snmp enabled
```

Validating SNMP from CLI

To validate the SNMP, use the following show command:

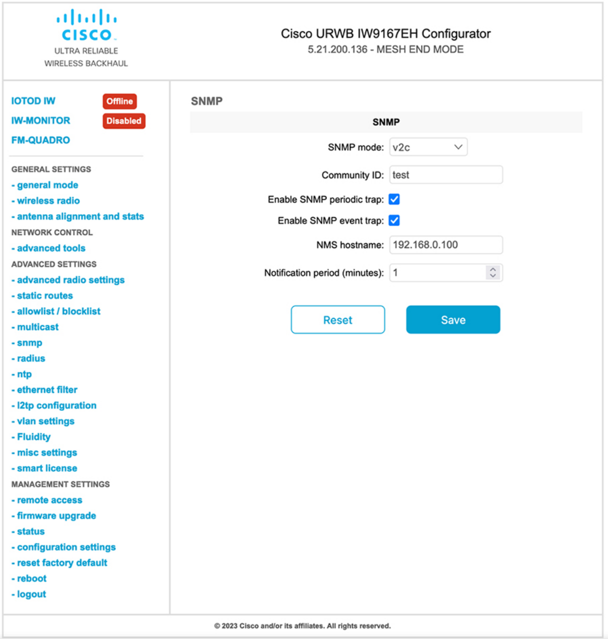
```
Device# show snmp
SNMP: enabled
Version: v3
Username: username
Password: password
Authentication method: SHA
Encryption: AES
Encryption Passphrase: passphrase
Engine ID: 0x8000000903c0f87fe5f314
Periodic Trap: enabled
Notification Period (minutes): 5
Event Trap: enabled
NMS hostname: 192.168.116.11
Device# show snmp
SNMP: enabled
Version: v2c
Community ID: test
Periodic Trap: enabled
Notification Period (minutes): 5
Event Trap: enabled
NMS hostname: 192.168.116.11
Device# show system status snmpd
Service Status
Service Name : snmpd
Loaded : loaded
Active : active (running)
Main ProcessID : 6437
Running Since : Mon 2022-09-19 14:45:27 UTC; 3h 34min ago
Service Restart : 0
```

Configuring SNMP Version v2c using GUI

By default, the access points are shipped from the factory with SNMP in disabled mode.

To change the access point's SNMP mode to version **v2c** and configure the access point, follow these steps:

Step 1 Choose the version **v2c** from the **SNMP mode** drop-down list.
The **SNMP** window appears.



Cisco URWB IW9167EH Configurator
5.21.200.136 - MESH END MODE

SNMP

SNMP

SNMP mode: v2c

Community ID: test

Enable SNMP periodic trap: ☑

Enable SNMP event trap: ☑

NMS hostname: 192.168.0.100

Notification period (minutes): 1

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Step 2 Enter the community identity value in the **Community ID** field.

Important The same community identity value must be set for all the access points in the network.

Step 3 Check the **Enable SNMP event trap** check box to enable SNMP event traps for significant system-related events, and then enter the network management station (NMS) host name in the **NMS hostname** field.

Important The NMS host to which traps are sent must have an SNMP agent that is configured to collect SNMP v2c traps.

Step 4 Check the **Enable SNMP periodic trap** check box to enable periodic SNMP traps to send SNMP traps at defined periodic intervals and then enter the host name of NMS in the **NMS hostname** field. Enter the notification period (minutes) in the **Notification period**.

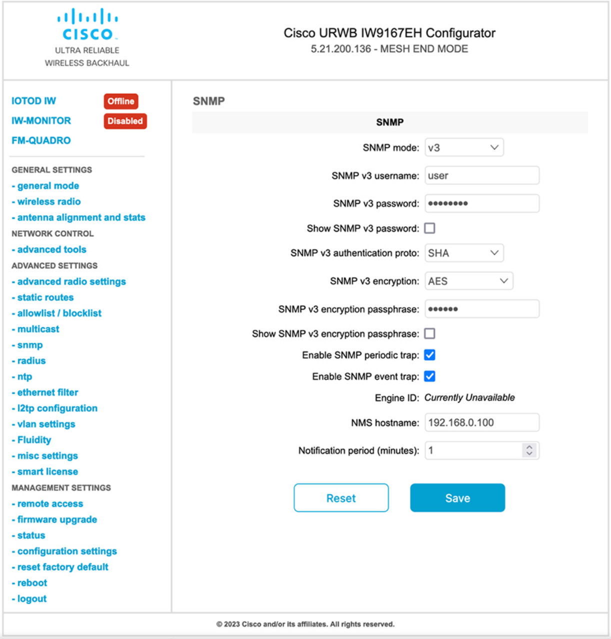
Step 5 Click **Save**.

Configuring SNMP Version v3 using GUI

By default, the access points are shipped from the factory with SNMP in disabled mode.

To change the access point's SNMP mode to version **v3** and then configure the access point, follow these steps:

Step 1 Choose the version **v3** from the **SNMP mode** drop-down list.
The **SNMP** window appears.



Cisco URWB IW9167EH Configurator
5.21.200.136 - MESH END MODE

SNMP

SNMP

SNMP mode: v3
SNMP v3 username: user
SNMP v3 password: ••••••••
Show SNMP v3 password: □
SNMP v3 authentication proto: SHA
SNMP v3 encryption: AES
SNMP v3 encryption passphrase: ••••••
Show SNMP v3 encryption passphrase: □
Enable SNMP periodic trap: ☑
Enable SNMP event trap: ☑
Engine ID: *Currently Unavailable*
NMS hostname: 192.168.0.100
Notification period (minutes): 1

Step 2 Enter the SNMP v3 username in the **SNMP v3 username** field.

Note The same SNMP v3 username must be set for all the access points in the network.

Step 3 To change the current SNMP v3 password, enter the new password in the **SNMP v3 password** field.

Step 4 Choose the authentication type from the **SNMP v3 authentication proto** drop-down list. The available options are:

- **MD5**
- **SHA**

Important The same SNMP authentication protocol must be set for all the access points in the network.

Step 5 Choose the appropriate encryption protocol from the **SNMP v3 encryption** drop-down list. The available options are:

- **No Encryption**
- **DES** (Data Encryption Standard)
- **AES** (Advanced Encryption Standard)

Note The same encryption protocol must be set for all the access points in the network.

Step 6 To change the encryption passphrase, enter a new passphrase in the **SNMP v3 encryption passphrase** field.

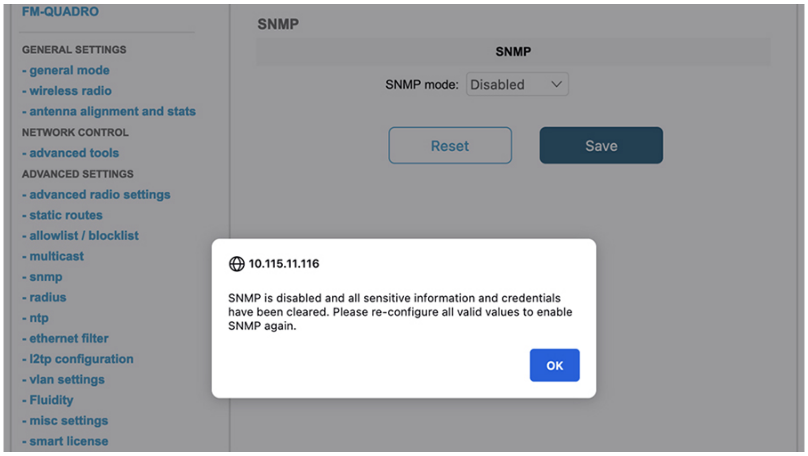
Step 7 Check the **Enable SNMP periodic trap** check box to enable the periodic SNMP traps to send SNMP traps at defined periodic intervals and then enter the host name of NMS in the **NMS hostname** field. Enter the notification period (minutes) in the **Notification period**.

Step 8 Check the **Enable SNMP event trap** check box to enable the SNMP event traps for significant system-related events and then enter the host name of NMS in the **NMS hostname** field.

Note The NMS host to which traps are sent must have an SNMP agent configured to collect v3 traps.

Step 9 Click **Save**.

If you disable the SNMP, the following pop-up appears:



SNMP mode: Disabled

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SNMP is disabled and all sensitive information and credentials have been cleared. Please re-configure all valid values to enable SNMP again.