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## Introduction

This document describes how to add Converged Access (5760/3850/3650) to Prime Infrastructure with Simple Network Management Protocol (SNMP) v2 and v3.

## Prerequisites

## Requirements

Cisco recommends that you have knowledge of these topics:

- Converged Access (5760/3850/3650) Cisco IOS® Version 3.3.x and later or Denali 16.x
- Prime Infrastructure Version 2.0 or later

## Components Used

This document is not restricted to specific software and hardware versions.

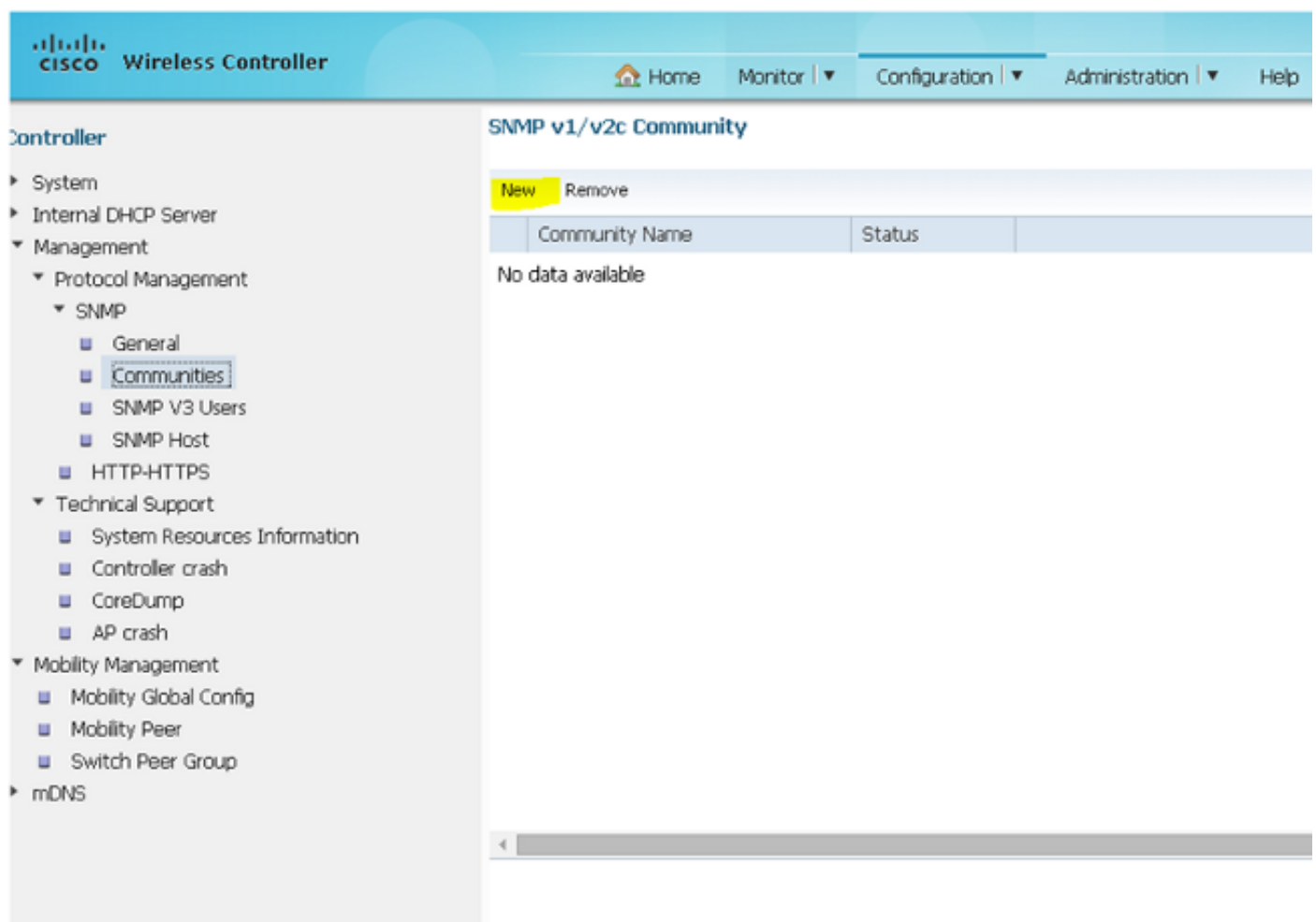
The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

## Configure (Prime Infrastructure 2.2 and Earlier)

### SNMP v2 Configuration on a Switch

#### GUI

Choose **Configuration > Controller > Management > SNMP > Communities > New**.



The screenshot displays the Cisco Prime Infrastructure GUI. The top navigation bar includes the Cisco logo, 'Wireless Controller', and menu items: Home, Monitor, Configuration, Administration, and Help. The left sidebar shows a tree view under 'Controller' with categories like System, Internal DHCP Server, Management, Protocol Management, SNMP, HTTP-HTTPS, Technical Support, Mobility Management, and mDNS. The 'SNMP' category is expanded, and 'Communities' is selected. The main content area is titled 'SNMP v1/v2c Community' and features a 'New' button and a 'Remove' button. Below these is a table with columns for 'Community Name' and 'Status', which currently contains the text 'No data available'.

## CLI

Enter these commands:

```
conf t
```

```
snmp-server community V2Community RW
```

## SNMP v3 Configuration on a Switch

## CLI

Enter these commands:

```
conf t
```

```
snmp-server group V3Group v3 auth read V3Read write V3Write
```

```
snmp-server user V3User V3Group v3 auth sha Password1 priv aes 128 Password1
```

```
snmp-server view V3Read iso included
```

```
snmp-server view V3Write iso included
```

```
snmp-server host 10.201.234.170 version 3 auth V3User
```

```
snmp-server enable traps
```

## Prime Infrastructure

**Note:** Use the Lifecycle view.

Choose **Operate > Device Work Center > Add Device**.

The screenshot displays the Cisco Prime Infrastructure web interface. The top navigation bar includes 'Home', 'Design', 'Deploy', 'Operate', 'Report', 'Administration', and 'Workflows'. The 'Operate' tab is active, leading to the 'Device Work Center' page. On the left, a 'Device Group' sidebar shows a search bar and a tree view with 'ALL', 'Device Type', 'Site Groups', and 'User Defined'. The main content area shows 'Device Group > ALL' and 'ALL' devices. A toolbar above the table includes 'Edit', 'Delete', 'Sync', 'Groups & Sites', 'Add Device', 'Bulk Import', and 'Export Device'. The table lists four devices with their names, reachability status, IP addresses, and device types.

Device Name	Reachability	IP Address/DNS	Device Type
5508_P5_165	✓	10.201.166.165	Cisco 5508 Wireless LAN Con...
5760.gateway.2wire.net	✓	10.201.234.6	Cisco 5760 Wireless LAN Con...
8510B-78	✓	10.201.166.152	Cisco Flex 8500 Wireless LAN...
Shankar_2504	✓	10.201.234.165	Cisco 2504 Wireless LAN Con...

## SNMP v2

### Add Device

**General Parameters \***

IP Address

DNS Name

---

**SNMP Parameters**

Version

\* Retries

\* Timeout  (secs)

\* Community  ?

\* Confirm Community

---

**Telnet/SSH Parameters**

Protocol

\* Timeout  (secs)

Username

Password

Confirm Password

Enable Password

Confirm Enable Password

## SNMP v3

### Add Device

**General Parameters \***

IP Address

DNS Name

---

**SNMP Parameters**

Version

\* Retries

\* Timeout  (secs)

Username

Auth. Type

Auth. Password

Privacy Type

Privacy Password

---

**Telnet/SSH Parameters**

Protocol

\* Timeout  (secs)

Username

Password

**Note:** If Telnet/Secure Shell parameters are not entered, Prime Infrastructure will not collect

inventory from the switch.

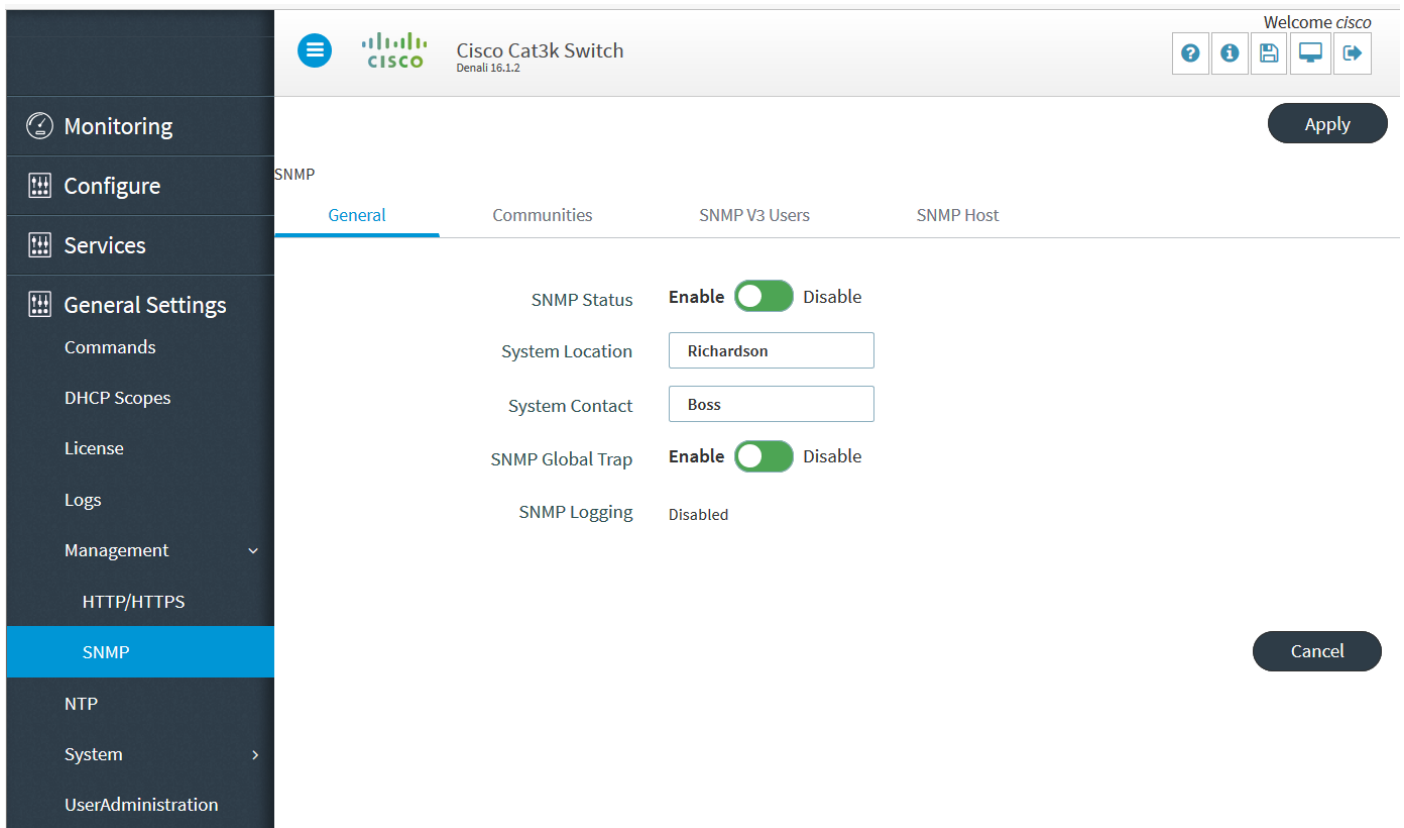
## Configure (Prime Infrastructure 3.x and Later)

### SNMP Configuration on a Switch (Denali 16.x)

#### GUI

Choose **General Settings > Management > SNMP**.

Enable **SNMP**.

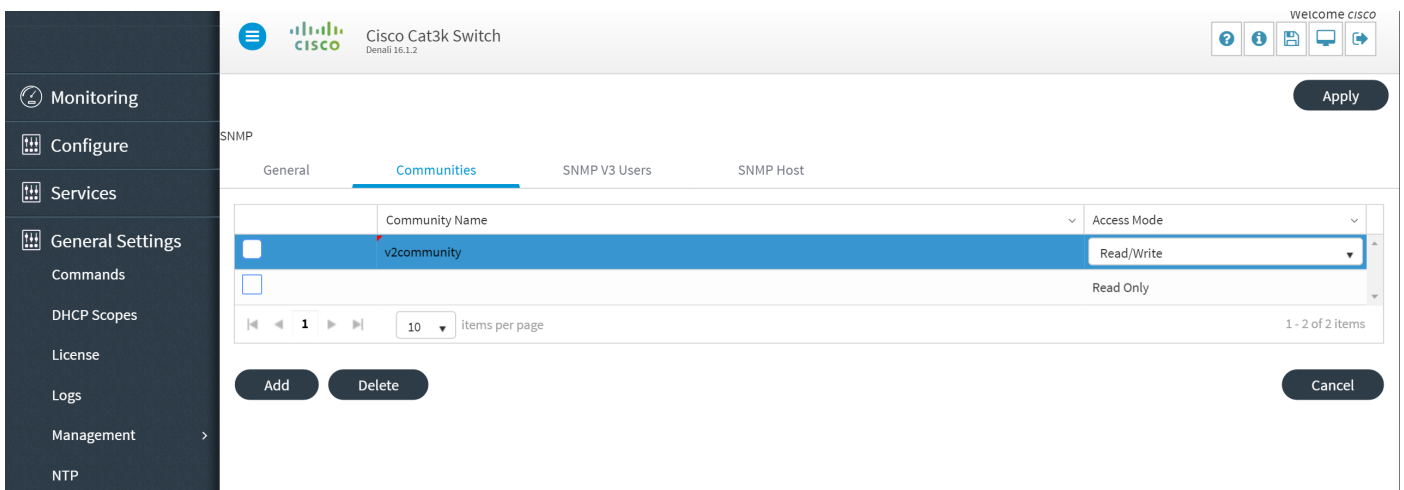


The screenshot shows the Cisco Cat3k Switch GUI for Denali 16.1.2. The left sidebar contains a navigation menu with 'SNMP' highlighted under 'Management'. The main content area is titled 'SNMP' and has four tabs: 'General', 'Communities', 'SNMP V3 Users', and 'SNMP Host'. The 'General' tab is active, displaying the following configuration:

SNMP Status	Enable <input checked="" type="checkbox"/> Disable
System Location	<input type="text" value="Richardson"/>
System Contact	<input type="text" value="Boss"/>
SNMP Global Trap	Enable <input checked="" type="checkbox"/> Disable
SNMP Logging	Disabled

Buttons for 'Apply' and 'Cancel' are visible in the top right and bottom right corners of the configuration area.

### GUI SNMP v2 Configuration on a Switch (Denali 16.x)



The screenshot shows the Cisco Cat3k Switch GUI for Denali 16.1.2. The left sidebar is the same as in the previous screenshot. The main content area is titled 'SNMP' and has four tabs: 'General', 'Communities', 'SNMP V3 Users', and 'SNMP Host'. The 'Communities' tab is active, displaying a table of SNMP v2 communities:

Community Name	Access Mode
<input type="checkbox"/> v2community	Read/Write
<input type="checkbox"/>	Read Only

Below the table, there is a pagination control showing '1' of 2 items per page. Buttons for 'Add', 'Delete', and 'Cancel' are located at the bottom of the configuration area.

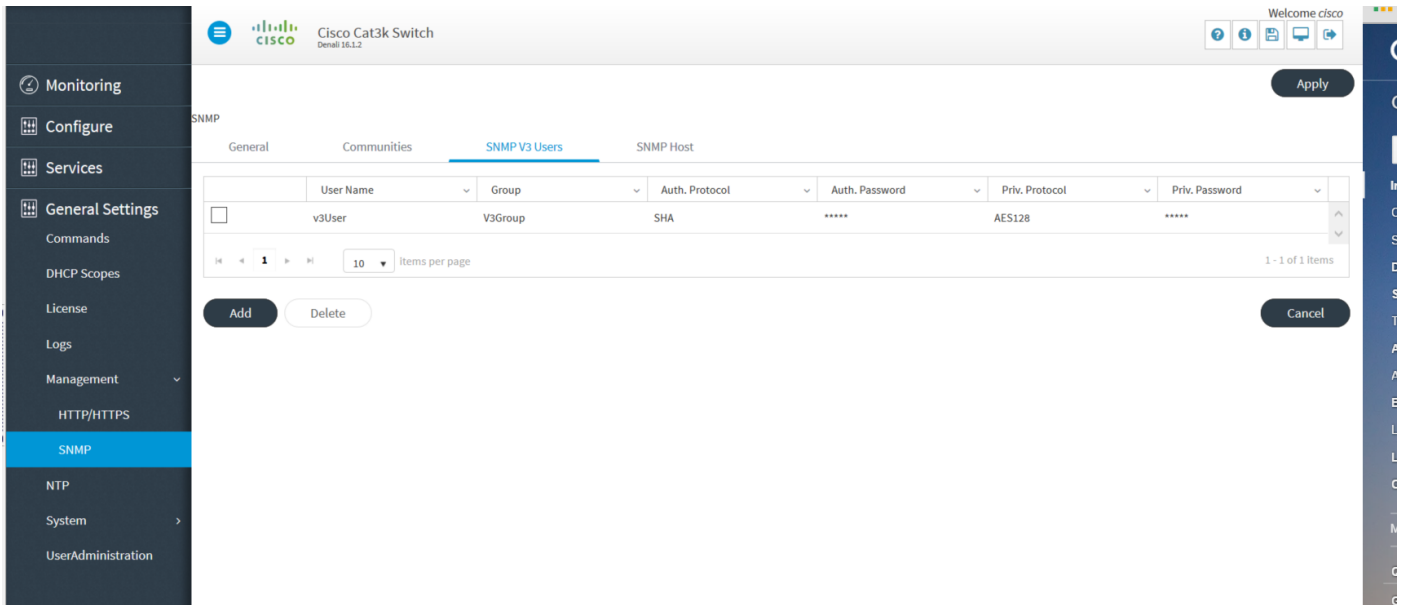
## CLI SNMP v2 Configuration on a Switch (Denali 16.x)

Enter these commands:

```
conf t
```

```
snmp-server community V2Community RW
```

## GUI SNMP v3 Configuration on a Switch (Denali 16.x)



## CLI SNMP v3 Configuration on a Switch (Denali 16.x)

Enter these commands:

```
conf t
```

```
snmp-server user V3user V3Group v3 auth sha Password1 priv aes 128 Password1
```

```
snmp-server view V3Read iso included
```

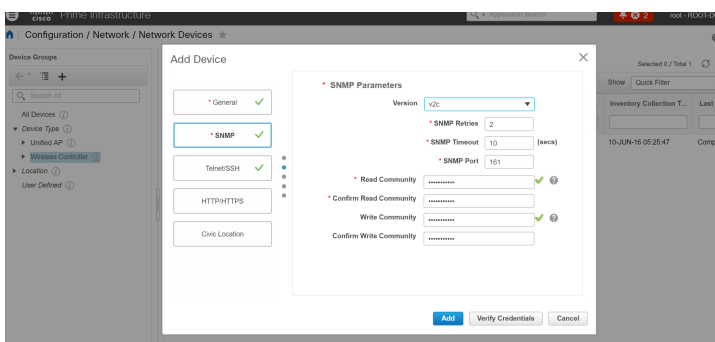
```
snmp-server view V3Write iso included
```

```
snmp-server host 10.201.236.107 version 3 auth V3user
```

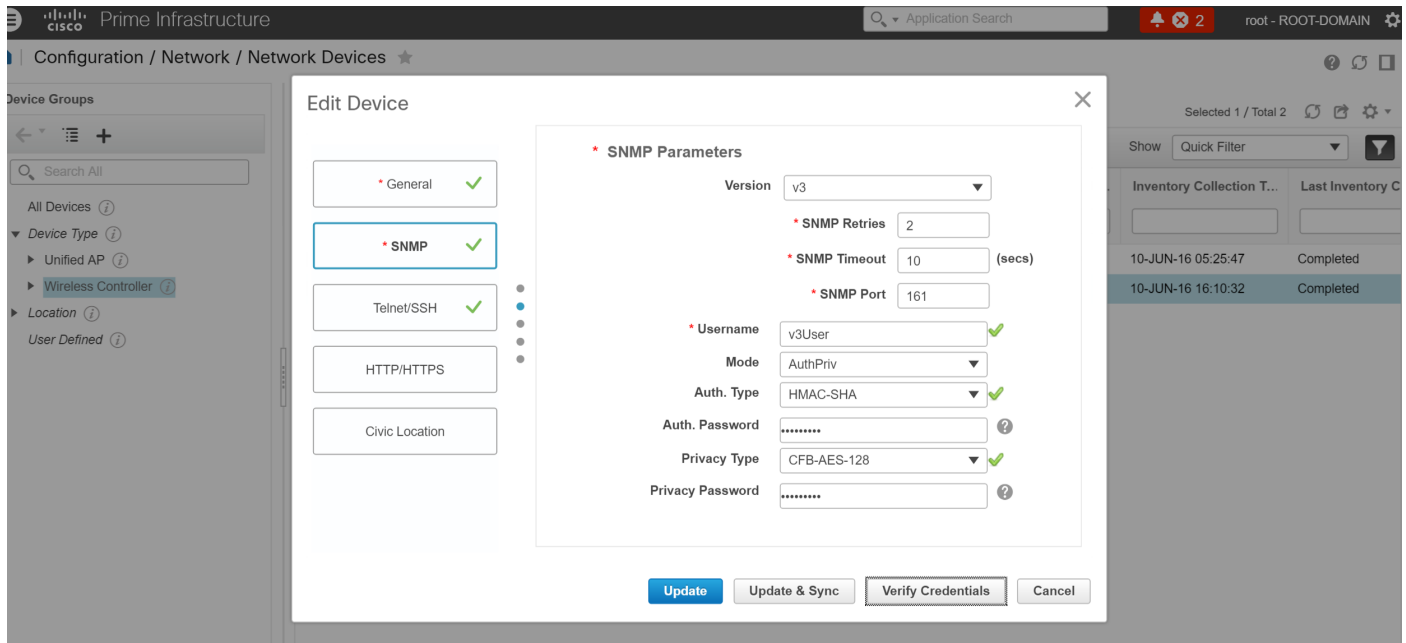
```
snmp-server enable traps
```

## Prime Infrastructure

### SNMP v2



## SNMP v3



## Verify

Use this section to confirm that your configuration works properly.

The [Cisco CLI Analyzer](#) (registered customers only) supports certain **show** commands. Use the Cisco CLI Analyzer in order to view an analysis of **show** command output.

## SNMP v2 Configuration on a Switch (Cisco IOS-XE)

Enter this command:

```
5760-79b#show snmp community
```

```
Community name: V2Community
Community Index: V2Community
Community SecurityName: V2Community
storage-type: nonvolatile          active
```

## SNMP v3 Configuration on a Switch (Cisco IOS-XE)

Enter these commands:

```
5760-79b#show snmp user
```

```
User name: V3User
Engine ID: 80000009030068BC0C5A8F80
storage-type: nonvolatile          active
Authentication Protocol: SHA
Privacy Protocol: AES128
Group-name: V3Group
```

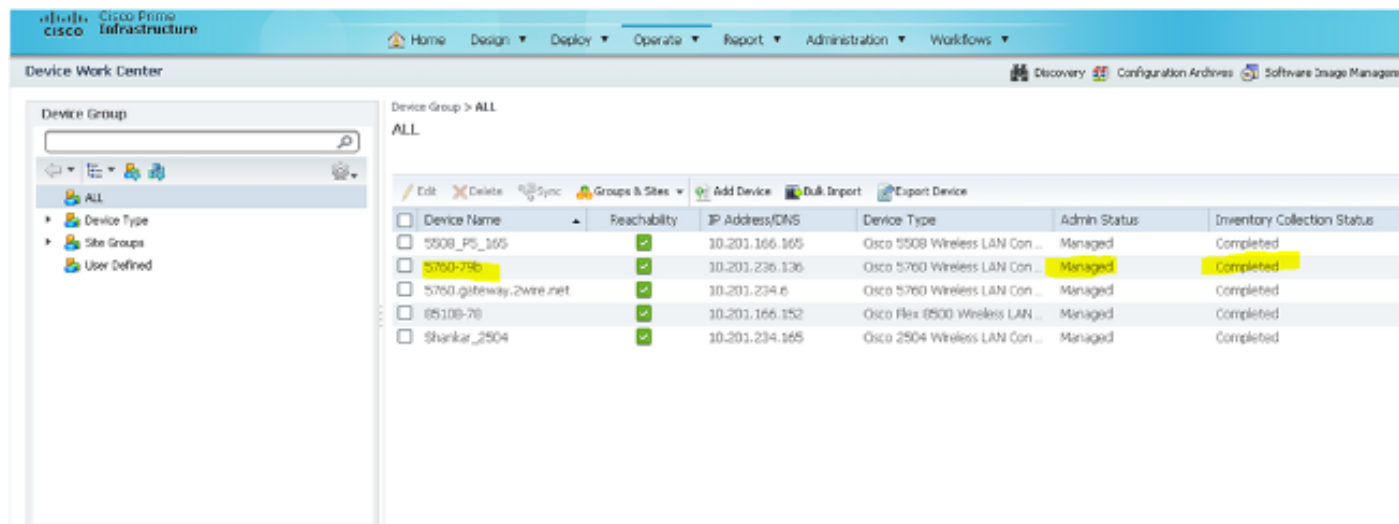
```
5760-79b#show snmp group
```

```
groupname: V3Group                                security model:v3 auth
contextname: <no context specified>              storage-type: nonvolatile
readview : V3Read                                writeview: V3Write
```

notifyview: <no notifyview specified>  
row status: active

**Note:** The CLI is preferred over the GUI for SNMP v3 configuration on Converged Access for some known issues that are addressed in Cisco bug ID [CSCuo52406](https://www.cisco.com/cisco/webbugtool/bug?bug=CSCuo52406).

## Prime Infrastructure (2.2 and Earlier)



## SNMP v2 Configuration on a Switch (Denali 16.x)

Enter this command:

```
polaris-3850#show snmp community
```

```
Community name: v2community  
Community Index: v2community  
Community SecurityName: v2community  
storage-type: nonvolatile active
```

## SNMP v3 Configuration on a Switch (Denali 16.x)

Enter these commands:

```
polaris-3850#show snmp user
```

```
User name: v3user  
Engine ID: 80000009030068BC0C5A8F80  
storage-type: nonvolatile active  
Authentication Protocol: SHA  
Privacy Protocol: AES128  
Group-name: V3Group
```

```
polaris-3850#show snmp group
```

```
groupname: V3Group security model:v3 auth  
contextname: <no context specified> storage-type: nonvolatile  
readview : V3Read writeview: V3Write  
notifyview: <no notifyview specified>  
row status: active
```

## Prime Infrastructure





# Troubleshoot

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

## From Converged Access

The **show logging** command shows active packets sent to the Prime Infrastructure IP address from the WLC.

Enter these commands:

```
polaris-3850#debug snmp packets
Polaris-3850#show logging
entPhysicalEntry.7.2042 = Gi2/0/1
*Jun 10 15:58:51.817: SNMP: Packet sent via UDP to 10.201.236.107
*Jun 10 15:58:51.819: SNMP: Packet received via UDP from 10.201.236.107 on Vlan1105
*Jun 10 15:58:51.825: SNMP: Get-bulk request, reqid 945449769, nonrptr 0, maxreps 10
Jun 10 15:58:51.904: SNMP: Packet sent via UDP to 10.201.236.107
*Jun 10 15:58:51.927: SNMP: Packet received via UDP from 10.201.236.107 on Vlan1105
*Jun 10 15:58:51.928: SNMP: Get-bulk request, reqid 945449775, nonrptr 0, maxreps 10
entPhysicalEntry.7.2062 = NULL TYPE/VALUE
*Jun 10 15:58:51.931: SNMP: Response, reqid 945449775, errstat 0, erridx 0
entPhysicalEntry.7.2063 = Gi2/0/22
entPhysicalEntry.7.2064 = Gi2/0/23
entPhysicalEntry.7.2065 = Gi2/0/24
entPhysicalEntry.7.2066 = Switch 2 FRU Uplink Module 1
--More-- entPhysicalEntry.7.2067 = Gi2/1/1 Container
entPhysicalEntry.7.2068 = Gi2/1/2 Container
entPhysicalEntry.7.2069 = Te2/1/3 Container
entPhysicalEntry.7.2070 = Te2/1/4 Container
entPhysicalEntry.8.1 = V01

*Jun 10 15:58:51.951: SNMP: Packet sent via UDP to 10.201.236.107
*Jun 10 15:58:51.974: SNMP: Packet received via UDP from 10.201.236.107 on Vlan1105
*Jun 10 15:58:51.975: SNMP: Get-bulk request, reqid 945449777, nonrptr 0, maxreps 10
ciscoEnvMonTemperatureStatusEntry.3 = NULL TYPE/VALUE
*Jun 10 15:58:51.978: SNMP: Response, reqid 945449777, errstat 0, erridx 0
ciscoEnvMonTemperatureStatusEntry.3.2008 = 28
ciscoEnvMonTemperatureStatusEntry.3.2009 = 40
ciscoEnvMonTemperatureStatusEntry.3.2010 = 44

ciscoEnvMonTemperatureStatusEntry.6.2008 = 1
--More-- *Jun 10 15:58:52.001: SNMP: Packet sent via UDP to 10.201.236.107
```

## From Prime Infrastructure

SNMPWALK between devices.

Enter these commands:

```
PrimeInfrastructurejoker/admin# shell
Enter shell access password :
Starting bash shell ...

ade # snmpwalk -v2c -c v2community 10.201.234.36 sysUpTime
DISMAN-EVENT-MIB::sysUpTimeInstance = Timeticks: (238833753) 27 days, 15:25:37.53
v2community = snmp community
```

10.201.234.36 = WLC IP

This is the result if reachablity is there:

DISMAN-EVENT-MIB::sysUpTimeInstance = Timeticks: xx.xxx