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SNMP Trap - How To Send A Test Trap

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Overview

This article shows you several methods of sending a trap to your Nagios [server](#) to test [SNMP](#) Trap functionality.

Sometimes when troubleshooting an [SNMP](#) Trap issue, it can be very helpful to remove the actual device that could be causing problems and use the `snmptrap` command instead. This troubleshooting method will confirm if your Nagios [server](#) is properly configured to receive traps.

You will be executing the command on the Nagios host itself, this is why you see `localhost` in the commands below.

Uptime

When you send a trap, it must of course conform to a set of standards. The options are explained in each section below however there is one option that is common and needs explaining, **uptime**.

Every trap needs an uptime value. Uptime is how long the system has been running since boot. Sometimes this is the operating system, other devices might use the [SNMP](#) engine uptime. Regardless, a value will be sent.

So what value should you type in the commands below? Oddly enough, simply supplying **no value** by using two single quotes `"` will instruct the command to obtain the value from the operating system you are executing this on.

For those who dig deeper and look at the spooled trap before it's processed will want to understand what type of format it is. Here is an example:

```
DISMAN-EVENT-MIB::sysUpTimeInstance 36:2:40:51.67
```

This equates to 36 days, 2 hours, 40 minutes and 51.67 seconds.

The key point to this section is that you now know why the commands below have two single quotes `"` for the uptime value.

[SNMP](#) v2 Trap

The command below takes the form of:

```
snmptrap -v <snmp_version> -c <community> <destination_host> <uptime> <OID_or_MIB> <object> <value_type> <value>
```

Using a MIB:

```
snmptrap -v 2c -c public localhost '' NET-SNMP-EXAMPLES-MIB::netSnmpExampleHeartbeatNotification netSnmpExampleHeartbeatRate i 123456
```

Shortening the MIB:


```
snmptrap -v 2c -c public localhost '' netSnmpExampleHeartbeatNotification netSnmpExampleHeartbeatRate i 123456
```


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Using OID's instead of MIB:

```
snmptrap -v 2c -c public localhost '' 1.3.6.1.4.1.8072.2.3.0.1 1.3.6.1.4.1.8072.2.3.2.1 i 123456
```

The commands above required the following settings in `/etc/snmp/snmptrapd.conf`

```
disableAuthorization yes
traphandle default /usr/sbin/snmpthandler
```

SNMP v3 Trap

The command below takes the form of:

```
snmptrap -v <snmp_version> -e <engine_id> -u <security_username> -a <authentication_protocol> -A <authentication_protocol_pass_phrase> -x <privacy_protocol>
```

Using a MIB:

```
snmptrap -v 3 -e 0x090807060504030201 -u the_user_name -a SHA -A the_SHA_string -x AES -X the_AES_string localhost '' NET-SNMP-EXAMPLES-MIB::netSnpExample
```

Shortening the MIB:

```
snmptrap -v 3 -e 0x090807060504030201 -u the_user_name -a SHA -A the_SHA_string -x AES -X the_AES_string localhost '' netSnpExampleHeartbeatNotification n
```

Using OID's instead of MIB:

```
snmptrap -v 3 -e 0x090807060504030201 -u the_user_name -a SHA -A the_SHA_string -x AES -X the_AES_string localhost '' 1.3.6.1.4.1.8072.2.3.0.1 1.3.6.1.4.1.
```

The commands above required the following settings in `/etc/snmp/snmptrapd.conf`

```
disableAuthorization yes
traphandle default /usr/sbin/snmpthandler
createUser -e 0x090807060504030201 the_user_name SHA the_SHA_string AES the_AES_string
authUser log,execute,net the_user_name
```

SNMP Trap Definition

The following trap definition can be placed in `/etc/snmp/snmpd.conf` which will allow the test [traps](#) sent above to be passed through to Nagios:

```
EVENT netSnpExampleHeartbeatRate .1.3.6.1.4.1.8072.2.3.0.1 "netSnpExampleHeartbeatRate" Normal
FORMAT SNMP netSnpExampleHeartbeatRate
EXEC /usr/local/bin/snmptraphandling.py "$r" "SNMP Traps" "$s" "$e" "" "netSnpExampleHeartbeatRate"
```

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Trap vs Inform

From the [net-snmp](#) website:

TRAP

A TRAP is a [SNMP](#) message sent from one application to another (which is typically on a remote host). Their purpose is merely to notify the other application that something has happened, has been noticed, etc. The big problem with [TRA](#)

INFORM

SNMPv2 PDUs fixed this by introducing the notion of an INFORM, which is nothing more than an acknowledged TRAP. IE, when the remote application receives the INFORM it sends back a "I got it" message. This is nice because then t

All of the commands above can be changed from `snmptrap` to `snmpinform` which will allow you to send a test inform.

SNMP Trap Configuration

More detailed information on configuring your [server](#) to accept [SNMP](#) TRAP's can be found in the following KB articles:

[Nagios XI - SNMP Trap Hardening](#)

[Nagios XI - SNMP Trap v3 Configuration](#)

Final Thoughts

For any support related questions please visit the [Nagios Support Forums](#) at:

<http://support.nagios.com/forum/>

Posted by: **tlea** on Fri, Apr 1, 2016 at 2:49 AM. This article has been viewed 15463 times.
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















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