

Developers Guide

Copyright (c) 2015-2021 The OpenNMS Group, Inc.

OpenNMS Horizon 27.2.0, Last updated 2021-05-11 14:59:03 UTC


```
# add OpenNMS as repository to install icmp and such
echo "deb http://debian.opennms.org stable main" >
/etc/apt/sources.list.d/opennms.list
echo "deb-src http://debian.opennms.org stable main" >>
/etc/apt/sources.list.d/opennms.list
# Add pgp key
wget -O - https://debian.opennms.org/OPENNMS-GPG-KEY | apt-key add -

# overall update
apt-get update

# install stuff
apt-get install -y software-properties-common
apt-get install -y git-core

# install Oracle Java 8 JDK
# this setup is based on: http://www.webupd8.org/2014/03/how-to-install-oracle-java-8-
in-debian.html
add-apt-repository -y ppa:webupd8team/java
apt-get update
apt-get install -y oracle-java8-installer
apt-get install -y oracle-java8-set-default

# install and configure PostgreSQL
apt-get install -y postgresql
echo "local all postgres peer" >
/etc/postgresql/9.3/main/pg_hba.conf
echo "local all all peer" >>
/etc/postgresql/9.3/main/pg_hba.conf
echo "host all all 127.0.0.1/32 trust" >>
/etc/postgresql/9.3/main/pg_hba.conf
echo "host all all ::1/128 trust" >>
/etc/postgresql/9.3/main/pg_hba.conf
# restart postgres to use new configs
/etc/init.d/postgresql restart

# install OpenNMS basic dependencies
apt-get install -y maven
apt-get install -y jicmp jicmp6
apt-get install -y jrrd

# clone opennms
mkdir -p ~/dev/opennms
git clone https://github.com/OpenNMS/opennms.git ~/dev/opennms
```

After this you should be able to build OpenNMS:

created in. However when serializing this object as JSON it is not clear to the ReST endpoint how to do that. In order to allow these values to be set as properties anyways, a custom `org.opennms.netmgt.graph.rest.api.PropertyConverter` can be exposed as an OSGi service.

4.11. Limitations

The following limitations are known for the *Graph Service API*:

- Status of vertices is not exposed
- custom images/icons cannot be set
- custom edge/vertex status providers are not implemented
- VMWare Topology Provider not fully migrated
- EnhancedLinkd Topology Provider not fully migrated

PUTs (Modifying Data)

Parameter	Description
<code>/sched-outages/{outageName}/collectd/{package}</code>	to add a specific outage to a collectd's package.
<code>/sched-outages/{outageName}/pollerd/{package}</code>	to add a specific outage to a pollerd's package.
<code>/sched-outages/{outageName}/threshd/{package}</code>	to add a specific outage to a threshd's package.
<code>/sched-outages/{outageName}/notifd</code>	to add a specific outage to the notifications.

DELETES (Removing Data)

Parameter	Description
<code>/sched-outages/{outageName}</code>	to delete a specific outage.
<code>/sched-outages/{outageName}/collectd/{package}</code>	to remove a specific outage from a collectd's package.

Parameter	Description
/snmpConfig/{ipAddresses}	Add or update the SNMP configuration for a given IP address.

Determine API version

To determine the version of the API running in your OpenNMS Horizon type <http://localhost:8980/opennms/rest/snmpConfig/1.1.1.1> in your browser and have a look at the output:

- **Version 1:** If the output only have attributes `community`, `port`, `retries`, `timeout` and `version`
- **Version 2:** If there are more attributes than described before (e.g. max Repetitions)

API Version 1

In version 1 only a few attributes defined in `snmp-config.xsd` are supported. These are defined in `snmp-info.xsd`:

```
<xs:schema
  xmlns:tns="http://xmlns.opennms.org/xsd/config/snmp-info"
  xmlns:xs="http://www.w3.org/2001/XMLSchema"
  elementFormDefault="qualified"
  version="1.0"
  targetNamespace="http://xmlns.opennms.org/xsd/config/snmp-info">
  <xs:element name="snmp-info" type="tns:snmpInfo"/>
  <xs:complexType name="snmpInfo">
    <xs:sequence>
      <xs:element name="community" type="xs:string" minOccurs="0"/>
      <xs:element name="port" type="xs:int"/>
      <xs:element name="retries" type="xs:int"/>
      <xs:element name="timeout" type="xs:int"/>
      <xs:element name="version" type="xs:string" minOccurs="0"/>
    </xs:sequence>
  </xs:complexType>
</xs:schema>
```

The following table shows all supported attributes, optional restrictions and the mapping between `snmp-info.xsd` and `snmp-config.xsd`. All parameters can be set regardless the version.

OpenNMS Horizon does not allow this. It is only allowed to set attributes which have no version restriction (e.g. timeout value) or the attributes which are limited to the version (e.g. `readCommunity` String if version is v1/v2c). The same is for getting data from the API, even if it is possible to store v1 and v3 parameters in one definition block in the `snmp-config.xml` manually, the ReST API will only return the parameters which match the version. If no version is defined, the default is assumed (both in *PUT* and *GET* requests).

The `SnmpInfo` schema is defined as follows:

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<xs:schema
  elementFormDefault="qualified"
  version="1.0"
  targetNamespace="http://xmlns.opennms.org/xsd/config/snmp-info"
  xmlns:tns="http://xmlns.opennms.org/xsd/config/snmp-info"
  xmlns:xs="http://www.w3.org/2001/XMLSchema">

  <xs:element name="snmp-info" type="tns:snmpInfo"/>
  <xs:complexType name="snmpInfo">
    <xs:sequence>
      <xs:element name="authPassPhrase" type="xs:string" minOccurs="0"/>
      <xs:element name="authProtocol" type="xs:string" minOccurs="0"/>
      <xs:element name="community" type="xs:string" minOccurs="0"/>
      <xs:element name="contextEngineId" type="xs:string" minOccurs="0"/>
      <xs:element name="contextName" type="xs:string" minOccurs="0"/>
      <xs:element name="engineId" type="xs:string" minOccurs="0"/>
      <xs:element name="enterpriseId" type="xs:string" minOccurs="0"/>
      <xs:element name="maxRepetitions" type="xs:int" minOccurs="0"/>
      <xs:element name="maxRequestSize" type="xs:int" minOccurs="0"/>
      <xs:element name="maxVarsPerPdu" type="xs:int" minOccurs="0"/>
      <xs:element name="port" type="xs:int" minOccurs="0"/>
      <xs:element name="privPassPhrase" type="xs:string" minOccurs="0"/>
      <xs:element name="privProtocol" type="xs:string" minOccurs="0"/>
      <xs:element name="proxyHost" type="xs:string" minOccurs="0"/>
      <xs:element name="readCommunity" type="xs:string" minOccurs="0"/>
      <xs:element name="retries" type="xs:int" minOccurs="0"/>
      <xs:element name="securityLevel" type="xs:int" minOccurs="0"/>
      <xs:element name="securityName" type="xs:string" minOccurs="0"/>
      <xs:element name="timeout" type="xs:int" minOccurs="0"/>
      <xs:element name="version" type="xs:string" minOccurs="0"/>
      <xs:element name="writeCommunity" type="xs:string" minOccurs="0"/>
    </xs:sequence>
  </xs:complexType>
</xs:schema>
```

The following table shows all supported attributes, the mapping between `snmp-info.xsd` and `snmp-config.xsd`. It also shows the version limitations, default values and the restrictions - if any.

attribute snmp-info.xml	attribute snmp-config.xml
default	restricted to version
restriction	version
version	v1
-	"v1", "v2c" or "v3" are valid arguments. If an invalid or empty argument is provided "v1" is used.
port	port
161	-
Integer > 0	retries
retry	1
-	Integer > 0
timeout	timeout
3000	-
Integer > 0	maxVarsPerPdu
max-vars-per-pdu	10
-	Integer > 0
maxRepetitions	max-repetitions
2	-
Integer > 0	maxRequestSize
max-request-size	65535
-	Integer > 0

attribute snmp-info.xml	attribute snmp-config.xml
proxyHost	proxy-host
	-
	readCommunity
read-community	public
v1, v2c	
writeCommunity	write-community
private	v1, v2c
	securityName
security-name	opennmsUser
v3	
securityLevel	security-level
noAuthNoPriv	v3

