



OpenNMS 101

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<http://www.opennms.org/Training>

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Module 10: Passive Status Keeper (PSK)



Passive Status Keeper (PSK)

- The Passive Status Keeper (PSK) lets you monitor “passive” services
- Status is kept in a table in memory that stores the status of the service:
Node – Interface – Service – Status
- The poller then checks that table for changes and then treats it like an “active” service
- Status is changed via events



Event Translator is Key

- The Event Translator takes one event and converts it to another.
- The event can be changed entirely or just enriched.
- The UEI *must* change to avoid loops.
- For the PSK, events are turned into Passive Service Status events.

Enriched LinkDown Event

```
<translation>
  <event-translation-spec uei="uei.opennms.org/generic/traps/SNMP_Link_Down">
    <mappings>
      <mapping>
        <assignment name="uei" type="field" >
          <value type="constant" result="uei.opennms.org/translator/traps/SNMP_Link_Down" />
        </assignment>
        <assignment name="ifDescr" type="parameter">
          <value type="sql" result="SELECT snmp.snmpIfDescr
                                FROM snmpInterface snmp WHERE snmp.nodeid = ?::integer
                                AND snmp.snmpifindex = ?::integer" >
            <value type="field" name="nodeid" matches=".*" result="{0}" />
            <value type="parameter" name="~^\.1\.3\.6\.1\.2\.1\.2\.2\.1\.1\.([0-9]*)$" matches=".*" result="{0}" />
          </value>
        </assignment>
        <assignment name="ifName" type="parameter">
          <value type="sql" result="SELECT snmp.snmpIfName
                                FROM snmpInterface snmp WHERE snmp.nodeid = ?::integer
                                AND snmp.snmpifindex = ?::integer" >
            <value type="field" name="nodeid" matches=".*" result="{0}" />
            <value type="parameter" name="~^\.1\.3\.6\.1\.2\.1\.2\.2\.1\.1\.([0-9]*)$" matches=".*" result="{0}" />
          </value>
        </assignment>
      </mapping>
    </mappings>
  </event-translation-spec>
</translation>
```



Exercise #10: Add Class-Mood PSK

- “Ad hoc” add Class-Mood to 127.0.0.1
- Synchronize the requisition
- Note monitoring status
- Add a monitor to the existing Class polling package
- Update the Event Translator
- Restart OpenNMS
- Cause an outage
- Restore the outage

Add the Class-Mood Service

- Navigate to Configure → Manage Provisioning Requisitions
- Edit the Class Requisition
- Edit the localhost node
- Edit the 127.0.0.1 interface
- Save, Return and Synchronize

Interface

IP Address

127.0.0.1

Description

lo0

SNMP Primary

P

Services



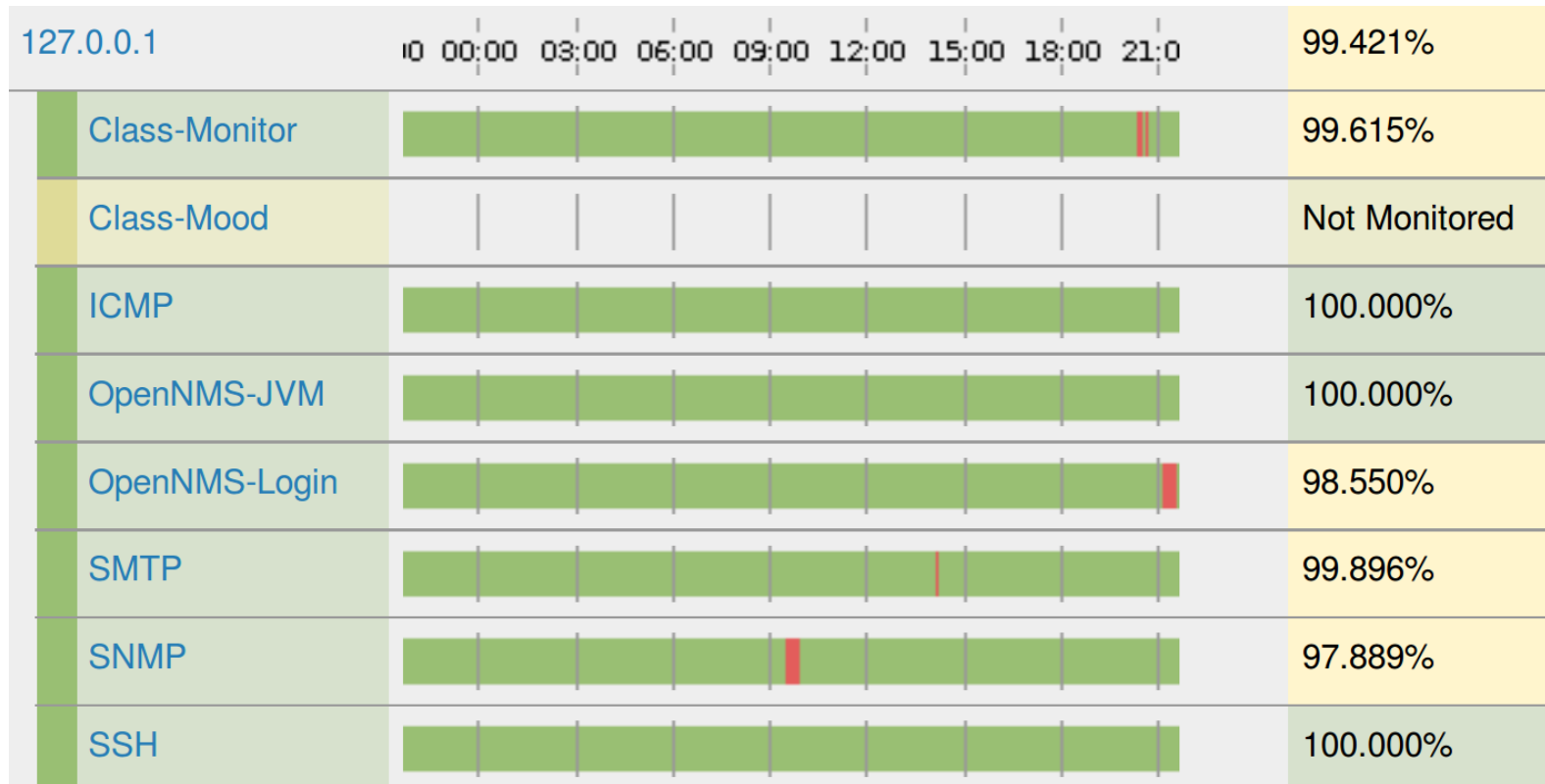
ICMP



Class-Mood



The Class-Mood Service is Added





Create a Monitor Service

It's one line, no parameters:

```
<service name="Class-Mood" interval="30000" user-defined="true" status="on" />
```

Remember to add the "monitor" to the bottom:

```
<monitor service="Class-Mood" class-name="org.opennms.netmgt.poller.monitors.PassiveServiceMonitor" />
```

Create the “down” Status Event

```
<event-translation-spec uei="uei.opennms.org/class/moody">
  <mappings>
    <mapping>
      <!-- Create a parameter -->
      <assignment type="parameter" name="passiveNodeLabel">
        <value type="constant" result="localhost" />
      </assignment>
      <!-- Create a parameter -->
      <assignment type="parameter" name="passiveIpAddr">
        <value type="constant" result="127.0.0.1" />
      </assignment>
      <!-- Create a parameter -->
      <assignment type="parameter" name="passiveServiceName">
        <value type="constant" result="Class-Mood" />
      </assignment>
      <!-- Create a parameter -->
      <assignment type="parameter" name="passiveStatus" >
        <value type="constant" result="Down" />
      </assignment>
      <!-- Set the Reason -->
      <assignment type="parameter" name="passiveReasonCode" >
        <value type="parameter" name="-^\.1\.3\.6\.1\.4\.1\.99999\.3\.1$" matches=".*" result="{0}" />
      </assignment>
      <!-- Change the UEI to be a passive status event-->
      <assignment type="field" name="uei">
        <value type="constant" result="uei.opennms.org/services/passiveServiceStatus" />
      </assignment>
    </mapping>
  </mappings>
</event-translation-spec>
```

Create the “up” Status Event

```
<event-translation-spec uei="uei.opennms.org/class/joyful">
  < mappings>
    < mapping>
      <!-- Create a parameter -->
      < assignment type="parameter" name="passiveNodeLabel">
        < value type="constant" result="localhost" />
      </ assignment>
      <!-- Create a parameter -->
      < assignment type="parameter" name="passiveIpAddr">
        < value type="constant" result="127.0.0.1" />
      </ assignment>
      <!-- Create a parameter -->
      < assignment type="parameter" name="passiveServiceName">
        < value type="constant" result="Class-Mood" />
      </ assignment>
      <!-- Create a parameter -->
      < assignment type="parameter" name="passiveStatus" >
        < value type="constant" result="Up" />
      </ assignment>
      <!-- Change the UEI to be a passive status event-->
      < assignment type="field" name="uei">
        < value type="constant" result="uei.opennms.org/services/passiveServiceStatus" />
      </ assignment>
    </ mapping>
  </ mappings>
</ event-translation-spec>
```

Update Configuration Files

- `cd /opt/opennms/etc`

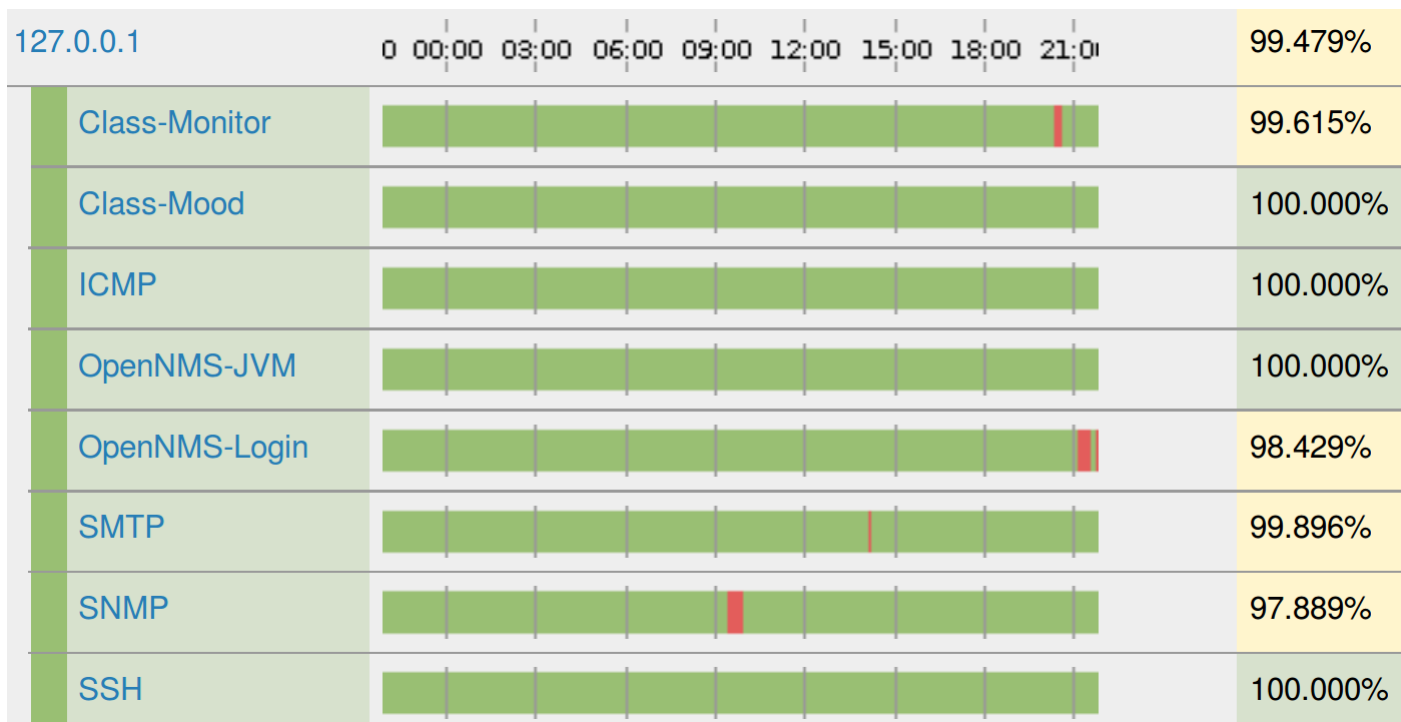
- **Run**

```
wget -N https://www.opennms.org/Class/Config/Exercise%2010/poller-configuration.xml
```

```
wget -N https://www.opennms.org/Class/Config/Exercise%2010/translator-configuration.xml
```


Restart and See the Service

```
# systemctl restart opennms
```



Create an Outage

```
# snmptrap -v 1 -c public 127.0.0.1 .1.3.6.1.4.1.99999.2 \  
localhost 6 1 ' ' .1.3.6.1.4.1.99999.3.1 s 'They be bored'
```

Recent Events				
389	12/6/16 22:00:06	Minor	Class-Mood outage identified on interface 127.0.0.1 with reason code: They be bored.	
388	12/6/16 21:59:51	Normal	Status information for service Class-Mood has been updated.	
387	12/6/16 21:59:51	Warning	OpenNMS Class is moody: They be bored	

<input type="checkbox"/>	59	localhost	1	Dec 6, 2016 10:00:06 PM	Class-Mood outage identified on interface 127.0.0.1 with reason code: They be bored.
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<input type="checkbox"/>	27	389	Minor	Dec 6, 2016 10:00:06 PM	localhost	127.0.0.1	Class-Mood	The Class-Mood service poll on interface localhost (127.0.0.1) on node localhost failed at Tuesday, December 6, 2016 10:00:06 PM EST.
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Resolve the Outage

```
# snmptrap -v 1 -c public 127.0.0.1 .1.3.6.1.4.1.99999.2 \  
localhost 6 2 ' ' .1.3.6.1.4.1.99999.3.1 s 'They have Pizza!'
```

392	12/6/16 22:04:07	Normal	The Class-Mood outage on interface 127.0.0.1 has been cleared. Service is restored.
391	12/6/16 22:03:49	Normal	Status information for service Class-Mood has been updated.
390	12/6/16 22:03:49	Normal	OpenNMS Class is joyful: They have Pizza!

<input type="checkbox"/>	60	localhost	1	Dec 6, 2016 10:04:07 PM	The Class-Mood outage on interface 127.0.0.1 has been cleared. Service is restored.
<input type="checkbox"/>	59	localhost	1	Dec 6, 2016 10:00:06 PM	Class-Mood outage identified on interface 127.0.0.1 with reason code: They be bored.