

# STARSCHEMA BUSINESS OBJECTS MONITORING PLUGIN FOR NAGIOS, HP OPENVIEW, IBM TIVOLI

USER MANUAL

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## 1. Configuring BusinessObjects XI Monitoring with the XML based configuration file

*BusinessObjects XI Monitoring* using XML based configuration files. With these configuration files you can define your general *BusinessObjects*® preferences like username, password, etc., and what kind of probes you would like to run against your business critical reports. *BusinessObjects XI Monitoring 2.0* supports three kinds of probe:

### *Logon probe:*

This probe tries to log on to *InfoView* portal with a pre-configured user credentials. If the login is not possible for any reason (host not available, bad credentials, etc.) the probe will return in failed status.

### *Viewreport probe:*

This probe tries to download a fresh instance of a pre-configured *Web Intelligence* or *Crystal Reports* document via *InfoView* portal. If the download is not success for any reason the probe will return in failed status.

### *History probe:*

This probe checks the last run of a scheduled *Web Intelligence* or *Crystal Reports* document via *InfoView* portal. If the result is not success or the last run is earlier than a pre-defined value for any reason the probe will return in failed status.

A finalized example configuration file which using all probes on a BusinessObjects® report looks like this:

```
<config>

  <monitoring>
    <timeout_connect>25</timeout_connect>
    <output_format>tivoli</output_format>
    <reportid>1064</reportid>
  </monitoring>

  <boxi>
    <version>r30</version>
    <host>192.168.0.131</host>
    <port>8080</port>
  </boxi>

  <probe name="logon" enabled="yes">
    <system>koszt-6791b4c8:6400</system>
    <username>administrator</username>
    <password>qwe123</password>
    <authtype>secEnterprise</authtype>
  </probe>

  <probe name="viewreport" enabled="yes"/>

  <probe name="history" enabled="yes">
```

```

    <max_lastcheckduration>600</max_lastcheckduration>
  </probe>
</config>

```

## Configuration properties

*monitoring* -> *timeout\_connect*:

Description	Possible Values
Timeout of the probes in seconds	Any numeric value

*monitoring* -> *output\_format*:

Description	Possible Values
Output format of the result rows.	nagios   tivoli   openview

*monitoring* -> *reportid*:

Description	Possible Values
ID number of the report in BusinessObjects® XI what you would like to monitor	Any numeric value

*boxi* -> *version*:

Description	Possible Values
BusinessObjects® XI version	r2   r30   r31

*boxi* -> *host*:

Description	Possible Values
Host or IP address of the server where BusinessObjects® XI InfoView application is running on	Any string value

*boxi* -> *port*:

Description	Possible Values
Port number of the InfoView application	Any numeric value (default is 8080)

*probe* -> *logon*:

Sub-property	Description	Possible Values
enabled	Probe is active or not	yes You can't disable this probe.
system	CMS machine name	Any string value
username	Username to log on to InfoView	Any string value
password	Password	Any string value
authtype	Authentication type	secEnterprise   secLDAP   secWinAD

probe -> viewreport:

Sub property	Description	Possible Values
enabled	Probe is active or not	yes   no

probe -> history:

Sub property	Description	Possible Values
enabled	Probe is active or not	yes   no
max_lastcheckduration	Number of seconds where	Any numeric value

## Version restrictions

*Business Objects XI Monitoring* comes in free and full version packages. Please take notice that the *Viewreport* probe is only available in the full version of the product and enabling this probe in the free version will cause an error message in output.

## Test the configuration file

The easiest way to test the configuration file is trying to run the monitoring executable with this file. It can be done from the command line:

```
➤ C:\BOXIMonitoring\boximonitoring-2.0_win_x86_full.exe -c
  C:\BOXIMonitoring\boximonitoring.cfg
```

Using the example configuration file in `C:\BOXIMonitoring\boximonitoring.cfg` the output should be something like that:

```
ProgName: BusinessObjects XI Monitoring
ProgShortName: BOXI Mon
ProgVersion: 2.0
ProgLicense: _not_licensed_yet_
ProgHomepage: http://www.starschema.eu
ProgContact: info@starschema.eu
BusinessObjects@ XI version: r30
OutputFormat: IBM Tivoli Software
ReturnCode: 2
ReturnCodeString: CRITICAL
StartDateTime: 2009-04-04 15:32:29
EndDateTime: 2009-04-04 15:32:50
Duration: 21
Message: Error at [http://192.168.0.131:8080/PlatformServices/service/app/logon.
object]: 500 Can't connect to 192.168.0.131:8080 (connect: Unknown error)
```

It says connecting to the *BusinessObjects® XI InfoView* portal at `http://192.168.0.131:8080` was unsuccessful. Probably a network error occurred or the server is down.

## 2. Configuring IBM Tivoli Software to run BusinessObjects XI Monitoring

### Prerequisite

Be sure that the value of the `output_format` XML tag in your *BusinessObjects XI Monitoring* configuration file equals `tivoli`.

```
...  
    <output_format>tivoli</output_format>  
...
```

### Start the IBM Tivoli Universal Agent

On UNIX® and Windows operating systems, you start the IBM Tivoli Universal Agent using Manage Tivoli Enterprise Monitoring Services. UNIX operating systems also offer a command-line interface for configuring, starting, and stopping the IBM Tivoli Universal Agent. By default, when you start the IBM Tivoli Universal Agent, the consolidated (ASFS) Data Provider is activated. Specify different or additional data providers to activate when you start the IBM Tivoli Universal Agent by changing the environment variable, `KUMA_STARTUP_DP`.

In our case `KUMA_STARTUP_DP` have to contain "ASFS , SCRP" values.

Other way to start the necessary services to start Manage Tivoli Enterprise Monitoring Services -> right click on **Universal Agent** -> **Change startup params** and set `SCRP` in the popup input box.

### Create a metafile

Create a plain text file called `BOXIMonitoring.mdl` into the User Agent metafiles directory of your *Tivoli* installation (`.../TMAITM6/metafiles`). The file should contain these lines:

```
//APPL BOXIMonitoring  
//NAME AttrData K 300 Interval=60  
//SOURCE SCRIPT C:\BOXIMonitoring\boximonitoring-2.0_win_x86_full.exe "-c  
C:\BOXIMonitoring\boximonitoring.cfg"  
//ATTRIBUTES ":"  
Propname D 128 KEY  
Propvalue Z 255
```

Note: Update the `//SOURCE SCRIPT` part to fit to your binary executable and configuration absolute file paths. Change the value of `Interval` variable if you want. User Agent will run the script at one time in this interval.

## Validate and register the metafile

Validation can be done from the command line:

```
➤ kumpeon validate BOXIMonitoring.mdl
```

Assuming the file contains no syntax errors, one of the last lines of output should be;  
**KUMPV000I Validation completed successfully**

Registration can be done from the command line too:

```
➤ kumpeon import BOXIMonitoring.mdl
```

Assuming the import was successful, you should now see that there is a Navigator change pending in the TEP.

The screenshot shows the Tivoli Enterprise Portal (TEP) interface. On the left, the Navigator tree is expanded to show the object 'ATTRDATA' under the path 'Enterprise > Windows Systems > MQDEMO > MQSERIES > Universal Agent > mqdemo:BOXIMONITORING00 > ATTRDATA'. The main workspace displays a 'View not defined' message, indicating that the default workspace for this Navigator item is not defined. Below the message, there are links for 'Hands-on practice and overviews' and 'View choices'. At the bottom of the interface, a table displays the properties of the selected object.

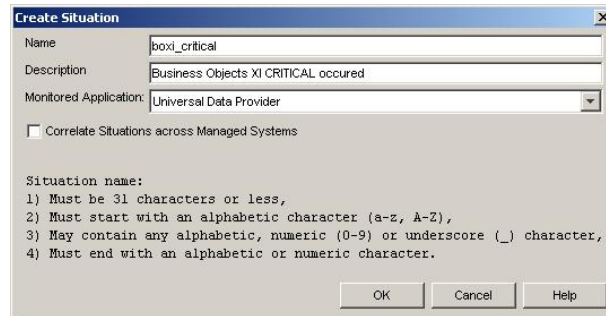
Propname	Propvalue
ProgName	BusinessObjects XI Monitoring
ProgShortName	BOXI Mon
ProgVersion	2.0
ProgLicense	_not_licensed_yet_
ProgHomepage	http://www.starschema.eu
ProgContact	info@starschema.eu
BusinessObjects XI version	r30
OutputFormat	IBM Tivoli Software
ReturnCode	2
ReturnCodeString	CRITICAL
StartDateTime	2009-03-29 18:47:45
EndDateTime	2009-03-29 18:47:45
Duration	0
Message	Error at [http://192.168.0.131:8080/PlatformServices/service/app/logon.object]: 500 Can't connect to 192.168.0.1...

## Define situations

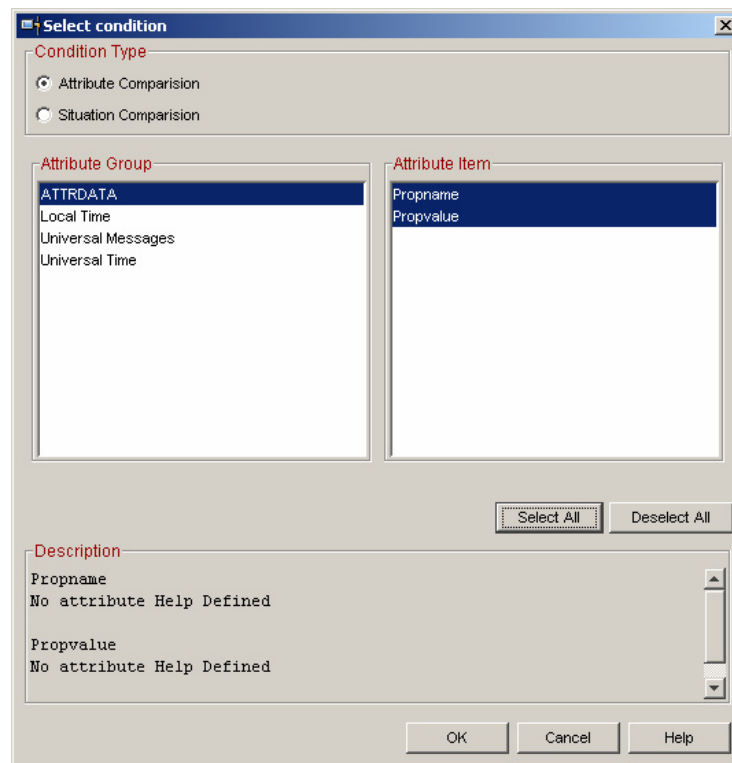
You have to define two kinds of situation. One of them for the warning messages and another one for the critical messages.

First define the CRITICAL message situation. Right click on **ATTRDATE** node under the **BOXIMONITORING00** and select **Situations...** On the popup window right click on **Universal Data Provider -> Create New...**

The appeared window should contain the following data:



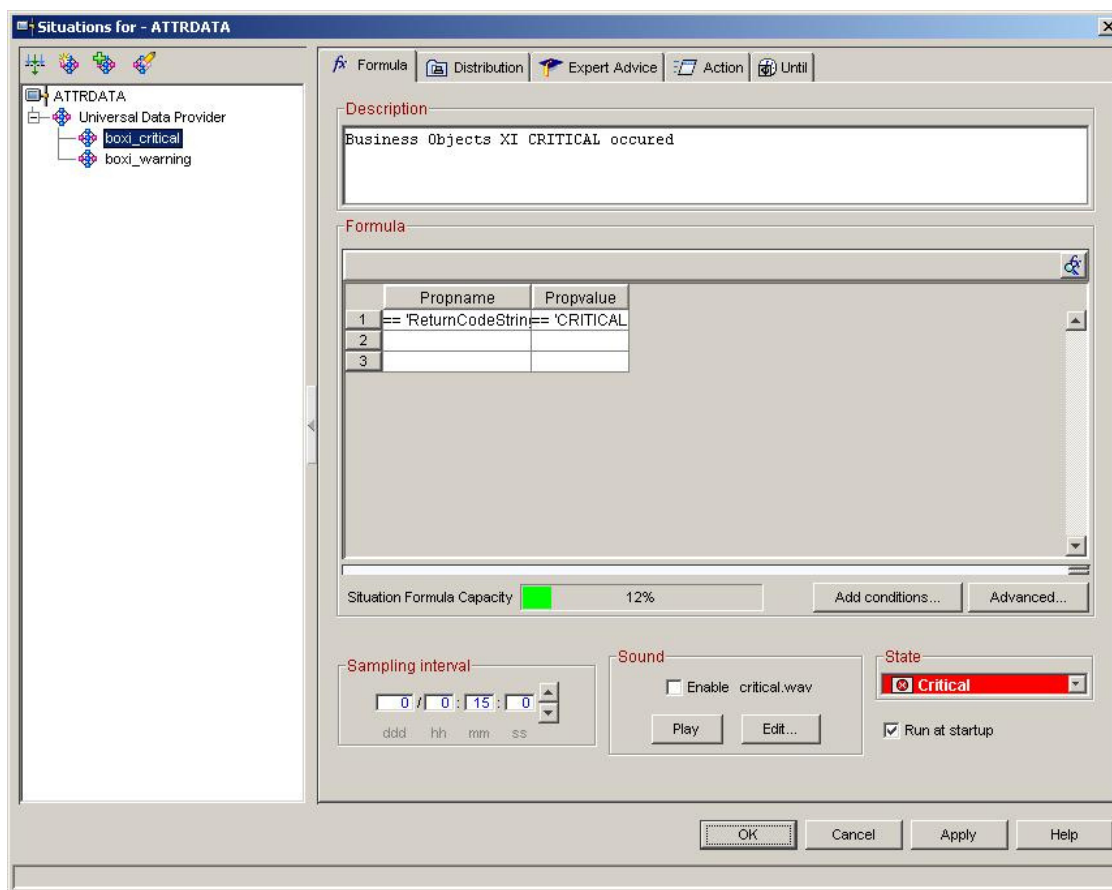
On the next window select *Attribute Comparison* from the *Condition Types*. The *Attribute Group* must be *ATTRDATA* and for the *Attribute Item* click on the **Select All** button like the example screenshot below.



In the next window you have to define a formula what will match for the CRITICAL alarms from the *BusinessObjects XI Monitoring* output. Add an optional text into the *Description* field. In the example this text is Business Objects XI CRITICAL occurred.

In the *Formula* section type `== 'ReturnCodeString'` in the first line of *Propname* cell and `== 'CRITICAL'` in the first line of *Propvalue* cell. Finally set the *State* drop-down list to Critical.

The example screenshot below demonstrate all of these settings.



When it is done you have to repeat the same steps once again and define the WARNING messages implicitly as well. Note: In case of warning situation the formula should be `Propname == 'ReturnCodeString'` and `Propvalue == 'WARNING'`.

### 3. Configuring HP Operations Manager to run BusinessObjects XI Monitoring

#### Prerequisite

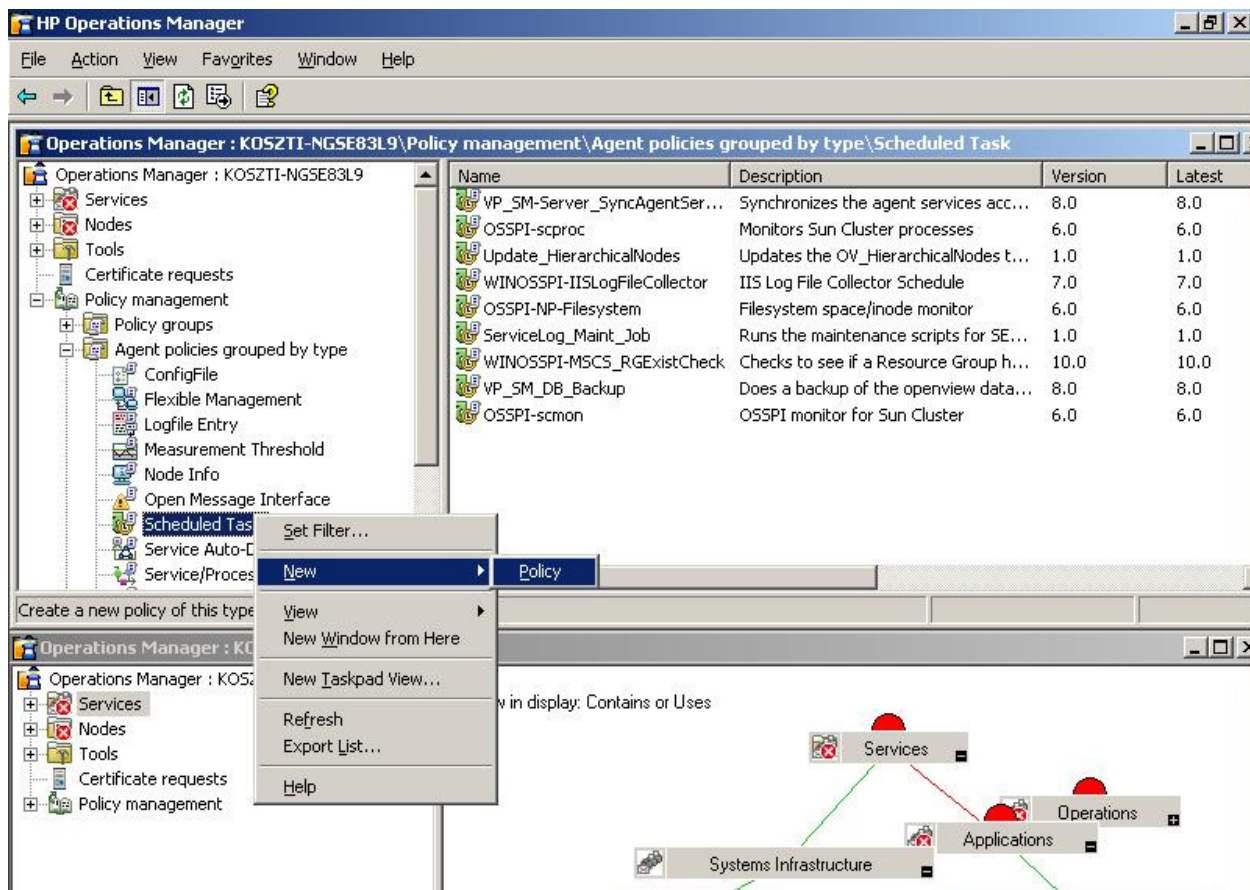
Be sure that the value of the *output\_format* XML tag in your BusinessObjects XI Monitoring configuration file equals *openview*.

```
...
  <output_format>openview</output_format>
...
```

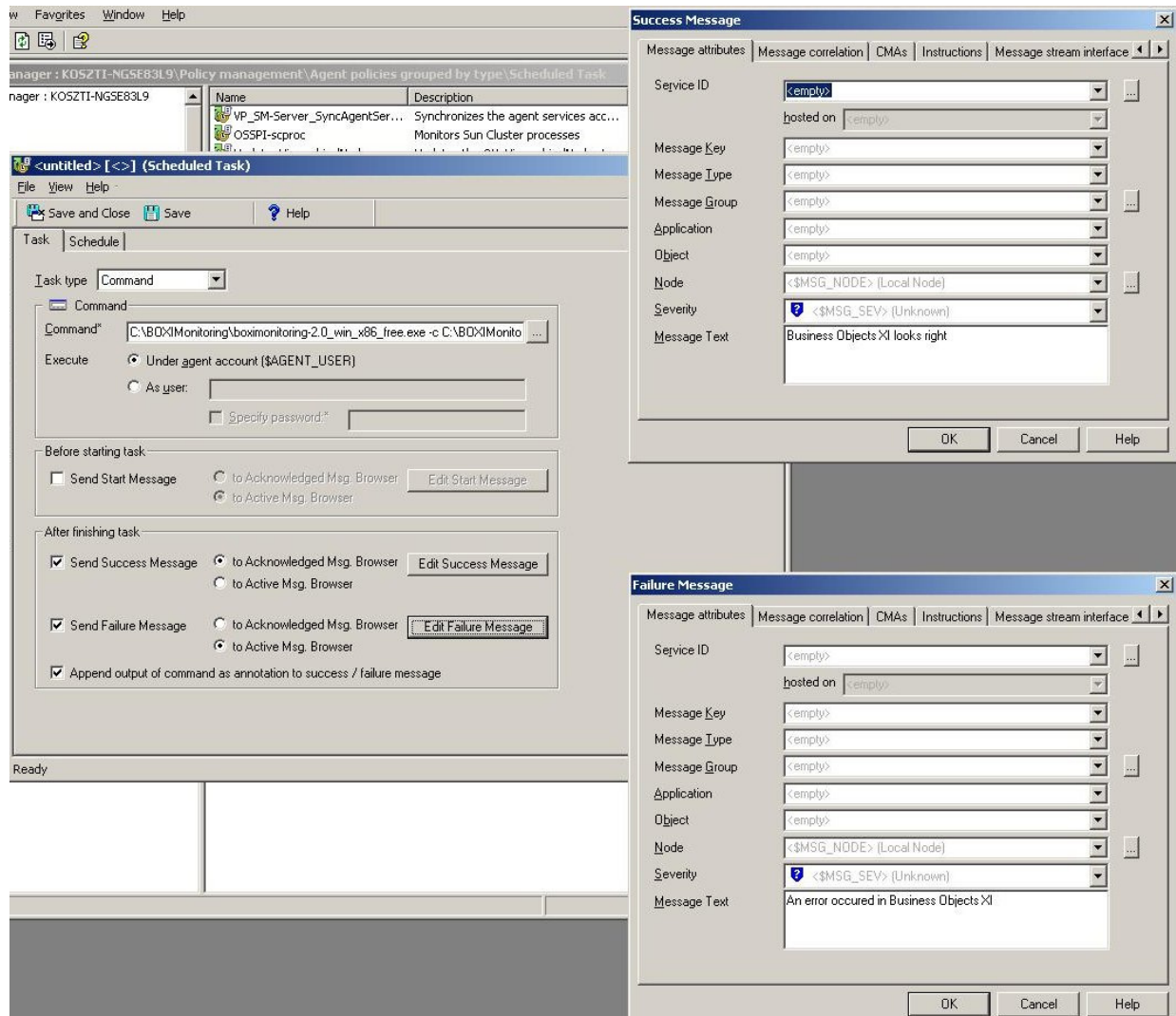
#### Create a new policy

Start HP Operations Manager® Console and login as Administrator.

Create a new **Scheduled Task Policy** under the **Policy Management** tree node by right click on it and select **New -> Policy**



Give a unique name for the new policy. In the example this name is BOXIMon. On the next popup window define the **Scheduled Task** properties to be the same as below.



Task type should be: Command

The command should be: `C:\BOXIMonitoring\boximonitoring-2.0_win_x86_free.exe -c C:\BOXIMonitoring\boximonitoring.cfg`

Note: The absolute path of the executable and the configuration file must fit to your environment!

Tick **Send Success Message** checkbox and select the **Acknowledged Msg. Browser** option for that.

Tick **Send Failure Message** checkbox and select the **Active Msg. Browser** option for that.

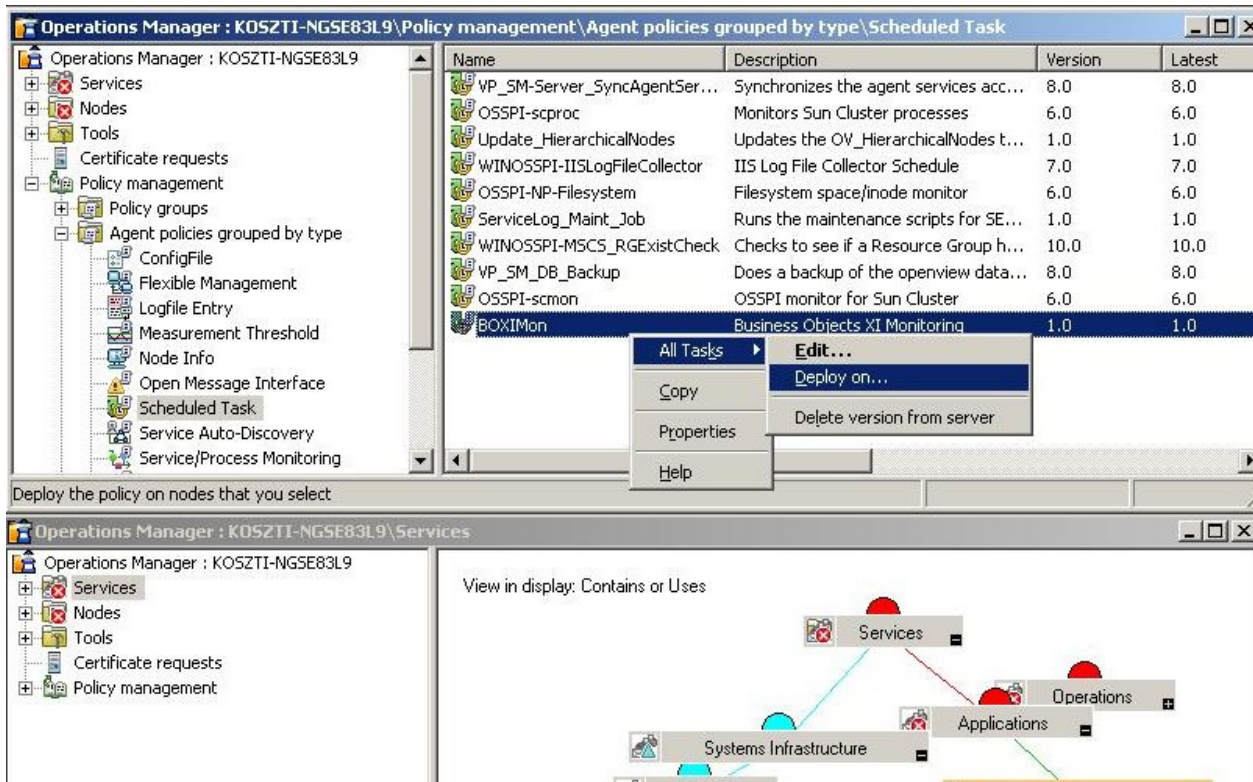
You can edit the Success and Failure Messages to fit your wishes if you want. In the example these texts set to "BusinessObjects XI looks right" for success result message and "An error occurred in BusinessObjects XI" for the failure message.

Tick **Append output of command as annotation to success / failure message** to be available browsing for all error details by annotations.

Finally on the **Schedule** tab you can define the interval easily when the probes have to runs. Default is every minute.

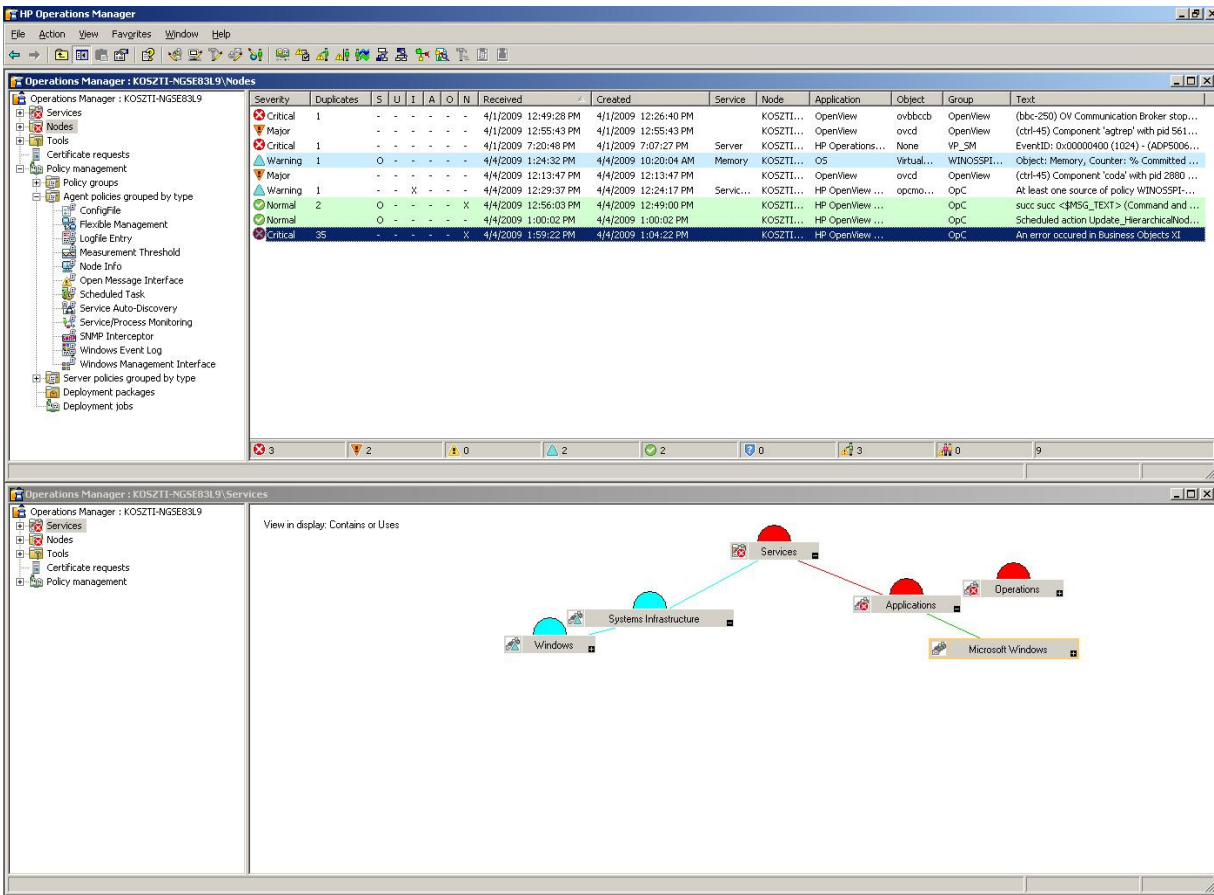
## Deploying

You can deploy the created policy by right click on the newly created **BOXIMon Scheduled Task** and click on **All Tasks -> Deploy on...** option. In the popup window select the node where you want to deploy the policy on.

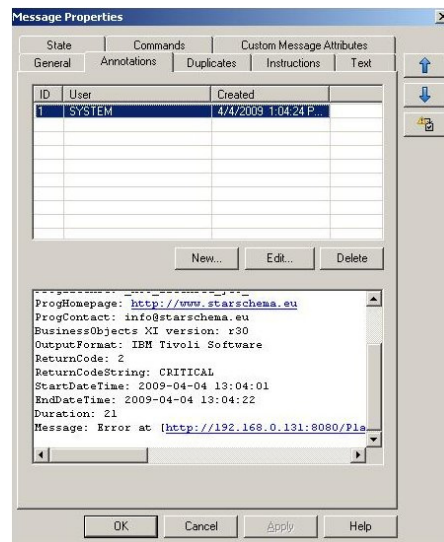


## Testing

If everything went well you should see something like this in the *Active Messages View* of your Node where you deployed the policy.



In this example HP Operations Manager® sent many alarms about An error occurred in BusinessObjects® XI. Check the error details by right click on the alarm row and select **Properties...** option.



Under the Annotations tab you can find all the details what happened during the probes and what will help you to fix BusinessObjects® problems.

## 4. Configuring Nagios 3 to run BusinessObjects XI Monitoring on Ubuntu 8.10

### Notes

The installation method can be different on different Linux distributions and different Nagios versions. This topic will show only how to set up Nagios 3 on a default Ubuntu 8.10 installation to use BusinessObjects® Monitoring XI as a generic Nagios check-plugin. If you use other Nagios version or Linux distribution the basic steps probably will be the same but you have to use some different methods too. In this case you will have to check the related documentation of Nagios and the proper Linux distribution you want to use. Nagios has a detailed documentation site for all versions at <http://www.nagios.org/docs/>.

### Prerequisite

First be sure that the value of the *output\_format* XML tag in your BusinessObjects XI Monitoring configuration file equals *nagios*.

```
...  
    <output_format>nagios</output_format>  
...
```

### Install Nagios3

Install the Nagios3 package from the Ubuntu 8.10 repository

```
➤ sudo apt-get install nagios3
```

You can see that it will install a number of packages to make it all work. The following extra packages will be installed:

```
libfreetype6 libgd2-noxpm libjpeg62 libnet-snmp-perl libperl5.10 libpng12-0 libradius1  
libsensors3 libsnmp-base libsnmp15 libsysfs2 libtalloc1 libwbclient0 nagios-images  
nagios-plugins nagios-plugins-basic nagios-plugins-standard nagios3-common nagios3-doc  
radiusclient1 samba-common smbclient snmp
```

Suggested packages:

```
libfreetype6-dev libgd-tools libcrypt-des-perl libdigest-hmac-perl libdigest-sha1-perl  
libio-socket-inet6-perl lm-sensors nagios2 nagios-text nagios whois nagios-nrpe-plugin  
smbfs
```

The following NEW packages will be installed:

```
libfreetype6 libgd2-noxpm libjpeg62 libnet-snmp-perl libperl5.10 libpng12-0 libradius1  
libsensors3 libsnmp-base libsnmp15 libsysfs2 libtalloc1 libwbclient0 nagios-images  
nagios-plugins nagios-plugins basicnagios-plugins-standard nagios3 nagios3-common  
nagios3-doc radiusclient1 samba-common smbclient snmp
```

0 upgraded, 24 newly installed, 0 to remove and 0 not upgraded.

Need to get 19.5MB of archives.

After this operation, 54.6MB of additional disk space will be used.

Once it is installed run a pre-flight check to verify it is working correctly.

## Pre-Flight Check

```
➤ sudo nagios3 -v nagios.cfg
```

```
Nagios 3.0.2  
Copyright (c) 1999-2008 Ethan Galstad (http://www.nagios.org)  
Last Modified: 05-19-2008  
License: GPL  
  
Reading configuration data...  
  
Running pre-flight check on configuration data...  
  
Checking services...  
    Checked 7 services.  
Checking hosts...  
    Checked 2 hosts.  
Checking host groups...  
    Checked 5 host groups.  
Checking service groups...  
    Checked 0 service groups.  
Checking contacts...  
    Checked 1 contacts.  
Checking contact groups...  
    Checked 1 contact groups.  
Checking service escalations...  
    Checked 0 service escalations.  
Checking service dependencies...  
    Checked 0 service dependencies.  
Checking host escalations...  
    Checked 0 host escalations.  
Checking host dependencies...  
    Checked 0 host dependencies.  
Checking commands...  
    Checked 142 commands.  
Checking time periods...  
    Checked 4 time periods.  
Checking for circular paths between hosts...  
Checking for circular host and service dependencies...  
Checking global event handlers...  
Checking obsessive compulsive processor commands...  
Checking misc settings...
```

```
Total Warnings: 0
Total Errors: 0
```

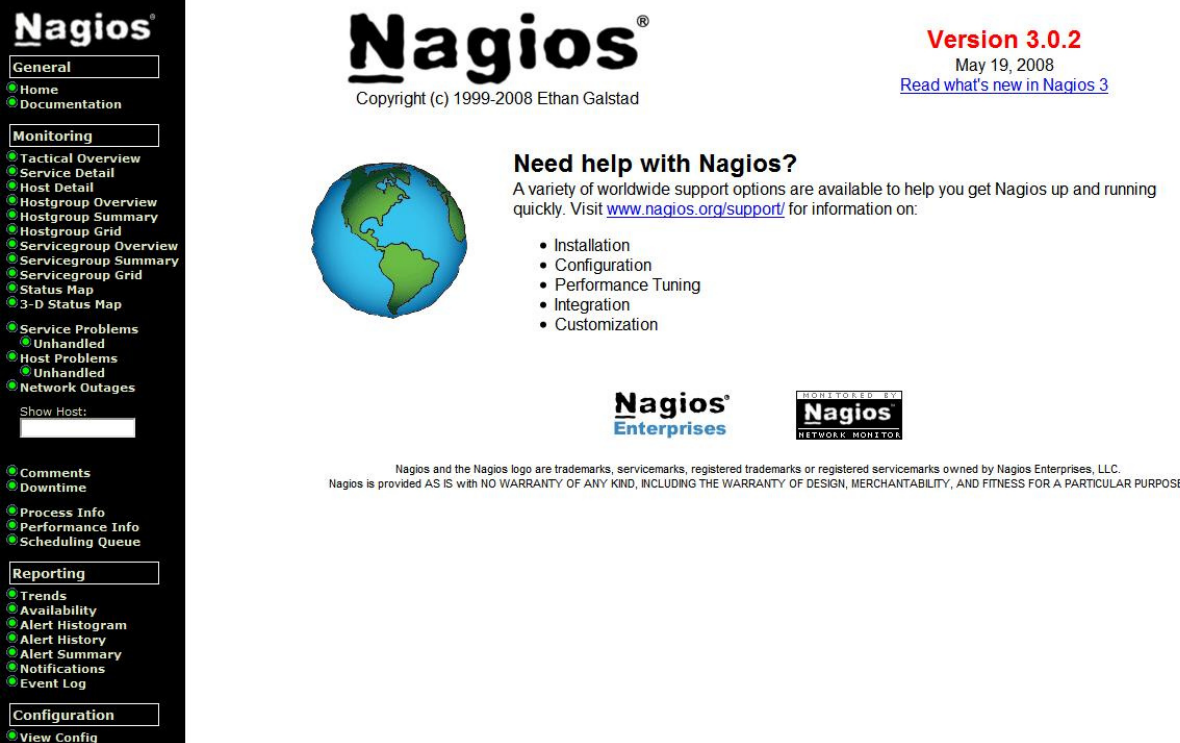
Things look okay - No serious problems were detected during the pre-flight check

By default it should run and you should be able to login to the web interface after you create the nagiosadmin user. Move into the /etc/nagios3 directory and create a user to access the web interface.

```
➤ sudo htpasswd -c htpasswd.users nagiosadmin
```

```
New password:
Re-type new password:
Adding password for user nagios
```

Now login to the web interface at [http://your\\_ip\\_address/nagios3](http://your_ip_address/nagios3) with the nagiosadmin user.



**Nagios**  
Version 3.0.2  
May 19, 2008  
[Read what's new in Nagios 3](#)

**Need help with Nagios?**  
A variety of worldwide support options are available to help you get Nagios up and running quickly. Visit [www.nagios.org/support](http://www.nagios.org/support) for information on:

- Installation
- Configuration
- Performance Tuning
- Integration
- Customization

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The purposes of making sure it all works you will see it is all running. Now you need to configure it for your settings. The configuration is where you will get to set up the services and hosts that you need.

Now, list what files are in the /etc/nagios3 directory.

```
➤ ls /etc/nagios3
```

```
contacts_nagios2.cfg      generic-service_nagios2.cfg    localhost_nagios2.cfg
extinfo_nagios2.cfg      host-gateway_nagios3.cfg      services_nagios2.cfg
generic-host_nagios2.cfg hostgroups_nagios2.cfg        timeperiods_nagios2.cfg
```

The files contain the default installation values but you can get fully detailed help about Nagios configuration files at <http://www.nagios.org/docs/> if you want to customize it for your own wishes.

## Using BusinessObjects XI Monitoring as a Nagios check-plugin

Copy the binary distribution of BusinessObjects XI Monitoring to the default Nagios plugin directory and make it executable.

```
➤ cp boximonitoring-2.0_linux_x86_free.bin /usr/lib/nagios/plugins
➤ chmod 655 /usr/lib/nagios/plugin/boximonitoring-2.0_linux_x86_free.bin
```

Copy your configuration XML file for the Monitoring into `/etc/nagios-plugins`

```
➤ cp boximonitoring.cfg /etc/nagios-plugins
```

Create a plain text file with the name `/etc/nagios-plugins/configs/boxi.cfg` and add the following content in it:

```
# 'check_boxi' command definition
define command{
    command_name    check_boxi
    command_line    /usr/lib/nagios/plugins/boximonitoring-2.0_linux_x86_free.bin
-c /etc/nagios-plugins/boximonitoring.cfg
}
```

Note: You have to create the `boximonitoring.cfg` by your own wishes manually. For the details check *Part 1: Configuring BusinessObjects XI Monitoring with the XML based configuration file*

Add the following lines into `/etc/nagios3/conf.d/services_nagios2.cfg`:

```
define service {
    hostgroup_name    boxi-servers
    service_description    BusinessObject XI
    check_command     check_boxi
    use               generic-service
}
```

Add the following lines into `/etc/nagios3/conf.d/hostgroups_nagios2.cfg`:

```
define hostgroup {
    hostgroup_name    boxi-servers
    alias             BusinessObjects servers
    members           boxi
}
```

Create a plain text file with the name `/etc/nagios3/conf.d/host-boxi_nagios3.cfg` and add the following contents:

```
define host {
    host_name boxi
    alias BusinessObjects® XI
    address _IP_address_where_Business_Objects_server_is_running_on_
    use generic-host
}
```

Now, restart Nagios and check the changes in the Nagios Web Panel by pointing your browser to [http://your\\_ip\\_address/nagios](http://your_ip_address/nagios)

```
➤ sudo /etc/init.d/nagios3 restart
```

Under the **Host Details** menu you should see a new host called *boxi* and the automatic monitoring should have been started.

The screenshot displays the Nagios web interface. On the left is a navigation menu with sections like 'General', 'Monitoring', 'Service Problems', and 'Comments'. The main content area shows the 'Host Status Totals' and 'Service Status Totals' summary tables, followed by a detailed table of 'Service Status Details For All Hosts'.

**Current Network Status**  
 Last Updated: Mon Apr 6 00:05:27 CEST 2009  
 Updated every 90 seconds  
 Nagios® 3.0.2 - [www.nagios.org](http://www.nagios.org)  
 Logged in as nagiosadmin

**Host Status Totals**

Up	Down	Unreachable	Pending
3	0	0	0
All Problems		All Types	
0		3	

**Service Status Totals**

Ok	Warning	Unknown	Critical	Pending
8	0	0	2	0
All Problems		All Types		
2		8		

**Service Status Details For All Hosts**

Host	Service	Status	Last Check	Duration	Attempt	Status Information
boxi	Business Objects XI	CRITICAL	2009-04-06 00:05:01	0d 0h 20m 26s	4/4	BOXI Mon CRITICAL - [r30 & Nagios]: Error at [http://192.168.0.131:8080/PlatformServices/service/app/fgon.object]: Can't connect to 192.168.0.131:8080 (connect: No route to host)
gateway	PING	OK	2009-04-06 00:02:17	0d 1h 53m 10s	1/4	PING OK - Packet loss = 0%, RTA = 0.61 ms
localhost	Current Load	OK	2009-04-06 00:00:36	0d 1h 51m 44s	1/4	OK - load average: 0.08, 0.06, 0.02
localhost	Current Users	OK	2009-04-06 00:03:54	0d 1h 50m 18s	1/4	USERS OK - 3 users currently logged in
localhost	Disk Space	CRITICAL	2009-04-06 00:04:34	0d 1h 48m 53s	4/4	DISK CRITICAL - /home/kosztl/gvfs is not accessible: Permission denied
localhost	HTTP	OK	2009-04-06 00:03:00	0d 1h 52m 27s	1/4	HTTP OK HTTP/1.1 200 OK - 319 bytes in 0.003 seconds
localhost	SSH	OK	2009-04-06 00:02:26	0d 1h 23m 1s	1/4	SSH OK - OpenSSH_5.1p1 Debian-3ubuntu1 (protocol 2.0)
localhost	Total Processes	OK	2009-04-06 00:00:52	0d 1h 49m 35s	1/4	PROCS OK: 116 processes

8 Matching Service Entries Displayed