Nagios Installation

LabCon Integration

1 History

Version	Date	Changes	Status
V1.00	02/23/17	Developed	Release

2 Legal

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3 Table of Contents

4 General

This manual describes the integration of LabCon ® into a Nagios environment.

A Ubuntu 16.04.2 LTS system platform has been selected for the installation of LabCon® for Nagios.

4.1 Target Group

This document is intended for system administrators integrating LabCon® in Nagios.

4.2 Criteria

- the ZBG-100 gateway must be accessible
- Linux and the Bash shell experience.

4.3 Software Versions

ZBG-100	4.00.00 - Build 4985
Ubuntu	16.04.2 LTS
Apache	2.4.18
php	7.0
nagios	3.5.1
pnp4nagios	0.6.24

5 Server preparation

5.1 Programs and Libraries

5.1.1 Installation from Ubuntu's repository

The following programs and libraries have to be installed:

- nagios3
- nagios-nrpe-plugin
- nagios-nrpe-server
- make
- rrdtool
- librrds-perl
- g++ libapache2-mod-php
- php
- php-cli
- php-gd
- php7.0-simplexml
- unzip

```
sudo apt-get install nagios3 nagios-nrpe-plugin nagios-nrpe-server make rrdtool librrds-
perl g++ libapache2-mod-php php php-cli php-gd php7.0-simplexml unzip
```

5.1.2 pnp4nagios

pnp4nagios is not a part of Ubuntu. It have to be compiled and installed manually:

```
mkdir ~/ src
cd ~/ src
wget http://downloads.sourceforge.net/project/pnp4nagios/PNP-0.6/pnp4nagios-
0.6.24.tar.gz
tar -xzvf pnp4nagios-0.6.24.tar.gz
cd pnp4nagios-0.6.24/
./configure
make all
sudo make fullinstall
```

The location of the apache server changed. The configuration for the pnp4nagis has to moved and enabled manually:

```
sudo mv /etc/httpd/conf.d/pnp4nagios.conf /etc/apache2/sites-available/
cd /etc/apache2/sites-enabled/
sudo ln -s ../sites-available/pnp4nagios.conf
```

Change the .htaccess path in this file to:

```
AuthUserFile /etc/nagios3/htpasswd.users
```

Enable the Apache Rewrite Module

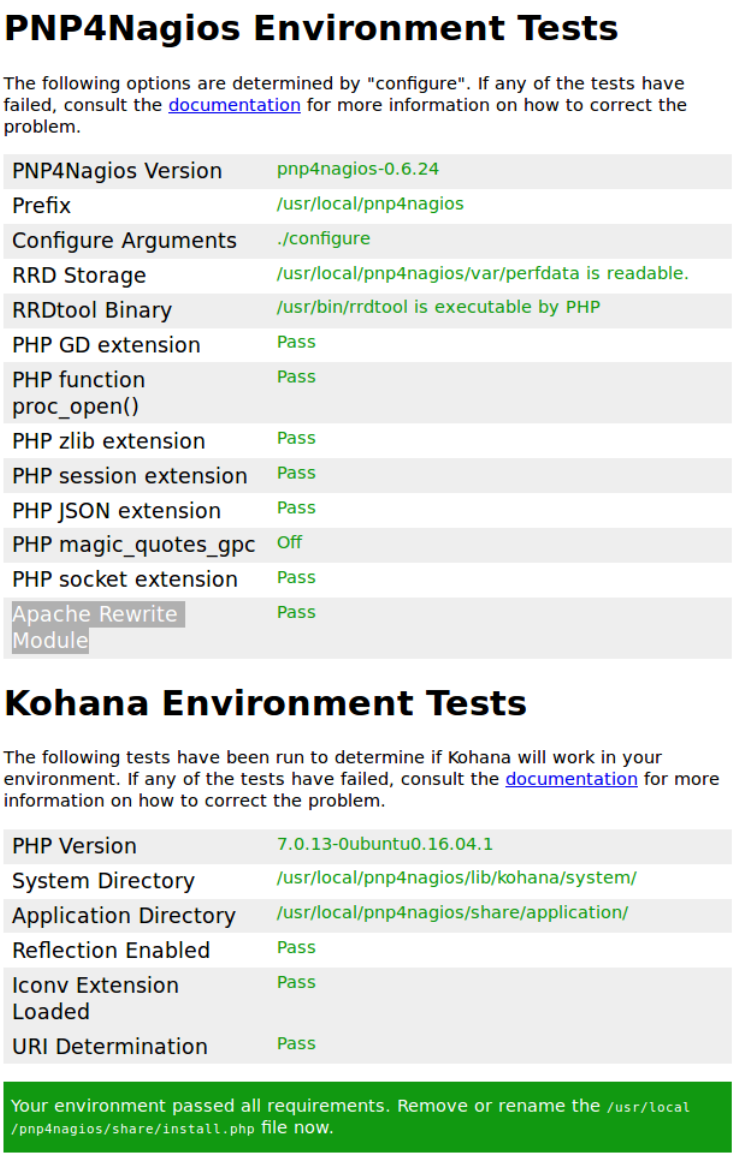
```
sudo a2enmod rewrite
```

and restart apache.

```
sudo service apache2 restart
```

Check the installation in your browser:

http://<ubuntu ip>/pnp4nagios



PNP4Nagios Environment Tests

The following options are determined by "configure". If any of the tests have failed, consult the documentation for more information on how to correct the problem.

PNP4Nagios Version	pnp4nagios-0.6.24
Prefix	/usr/local/pnp4nagios
Configure Arguments	./configure
RRD Storage	/usr/local/pnp4nagios/var/perfdata is readable.
RRDtool Binary	/usr/bin/rrdtool is executable by PHP
PHP GD extension	Pass
PHP function proc_open()	Pass
PHP zlib extension	Pass
PHP session extension	Pass
PHP JSON extension	Pass
PHP magic_quotes_gpc	Off
PHP socket extension	Pass
Apache Rewrite Module	Pass

Kohana Environment Tests

The following tests have been run to determine if Kohana will work in your environment. If any of the tests have failed, consult the documentation for more information on how to correct the problem.

PHP Version	7.0.13-0ubuntu0.16.04.1
System Directory	/usr/local/pnp4nagios/lib/kohana/system/
Application Directory	/usr/local/pnp4nagios/share/application/
Reflection Enabled	Pass
Iconv Extension Loaded	Pass
URI Determination	Pass

Your environment passed all requirements. Remove or rename the /usr/local/pnp4nagios/share/install.php file now.

If all is OK, remove the install.php:

```
sudo mv /usr/local/pnp4nagios/share/install.php
/usr/local/pnp4nagios/share/install.php.bak
```

5.2 Nagios Preparation

Create the LabCon working directory:

```
sudo mkdir -p /usr/local/labcon/config
```

Change the Nagios settings:

```
sudo vi /etc/nagios3/nagios.cfg
```

5.2.1 Add

```
# Labcon
cfg_dir=/usr/local/labcon/config
```

5.2.2 Change Settings

```
process_performance_data=1
check_external_commands=1
check_result_reaper_frequency=1
```

5.2.3 Uncomment

```
host_perfdata_command=process-host-perfdata
service_perfdata_command=process-service-perfdata
```

5.3 Change Performance Data Settings

```
sudo vi /etc/nagios3/commands.cfg
```

Chage from:

```
# 'process-host-perfdata' command definition
define command{
        command_name    process-host-perfdata
        command_line    /usr/bin/printf "%b"
"$LASTHOSTCHECK$\t$HOSTNAME$\t$HOSTSTATE$\t$HOSTATTEMPT$\t$HOSTSTATETYPE$\t$HOSTEXECUTIO
NTIME$\t$HOSTOUTPUT$\t$HOSTPERFDATA$\n" >> /var/lib/nagios3/host-perfdata.out
        }


# 'process-service-perfdata' command definition
define command{
        command_name    process-service-perfdata
        command_line    /usr/bin/printf "%b"
"$LASTSERVICECHECK$\t$HOSTNAME$\t$SERVICEDESC$\t$SERVICESTATE$\t$SERVICEATTEMPT$\t$SERVI
CESTATETYPE$\t$SERVICEEXECUTIONTIME$\t$SERVICELATENCY$\t$SERVICEOUTPUT$\t$SERVICEPERFDAT
A$\n" >> /var/lib/nagios3/service-perfdata.out
        }
```

to:

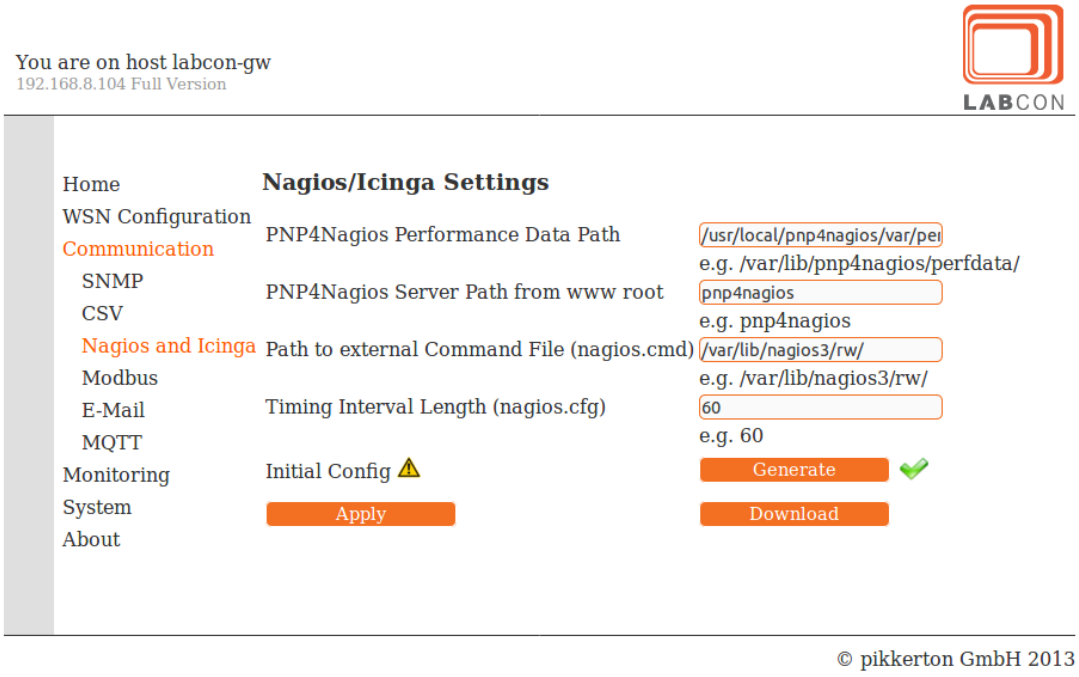
```
define command {
       command_name    process-service-perfdata
       command_line    /usr/bin/perl /usr/local/pnp4nagios/libexec/process_perfdata.pl
}

define command {
       command_name    process-host-perfdata
       command_line    /usr/bin/perl /usr/local/pnp4nagios/libexec/process_perfdata.pl
-d HOSTPERFDATA
}
```

5.4 ZBG-100 Initial configuration

Go to the ZBG website to “Communication” → “Nagios and Icinga” and change the settings to:

Nagios/Icinga Settings:	/usr/local/pnp4nagios/var/perfdata/
PNP4Nagios Server Path from www root:	pnp4nagios
Path to external Command File	/var/lib/nagios3/rw/
Timing Interval Length (nagios.cfg)	60



Then press “Apply”, “Generate” and “Download”.

Copy the zip-archive to the server and unzip it to “/usr/local/labcon”

```
cd /usr/local/labcon/
sudo unzip ~/<ZBG-100 name>_custom_config.zip
```

5.5 Network name

The LabCon scripts have to known the name of the ZBG-100-Gateway. The easiest way is to add it to the “/ets/hosts”:

```
sudo vi /ets/hosts
```

→ Add e.g.:

```
192.168.0.100     labcon-gw
```

6 Integration of LabCon

6.1 Menu Integration

The LabCon Menu have to be linked into the Nagios menu:

```
sudo ln -s /usr/local/labcon/nagios/labcon_menu.php
/usr/share/nagios3/htdocs/labcon_menu.php
```

Insert the content of “/usr/local/labcon/nagios/insert_to_side.php.txt” into “/usr/share/nagios3/htdocs/side.php” direct after the line 85.

6.2 Apache

Tell the Apache where to find the LabCon website source:

```
cd /etc/apache2/sites-enabled/
sudo ln -s /usr/local/labcon/apache2/labcon.conf
```

And change the security rule for Apache version 2.4:

```
sudo vi /usr/local/labcon/apache2/labcon.conf
```

From:

```
Alias /labcon /usr/local/labcon/www
<Directory /usr/local/labcon/www/>
        Options FollowSymLinks MultiViews
        AllowOverride None
        Order allow,deny
        allow from all
</Directory>
```

To:

```
Alias /labcon /usr/local/labcon/www
<Directory /usr/local/labcon/www/>
       Options FollowSymLinks MultiViews
       AllowOverride None
       Require all granted
</Directory>
```

If your NIC name, which is for the apache server, is different than eth0, change it in

```
/usr/local/labcon/www/defaults.py
```

in line 6 to e.g.:

```
    NETWORKINTERFACE = 'enp0s3'
```

Restart the Apache and the Nagios

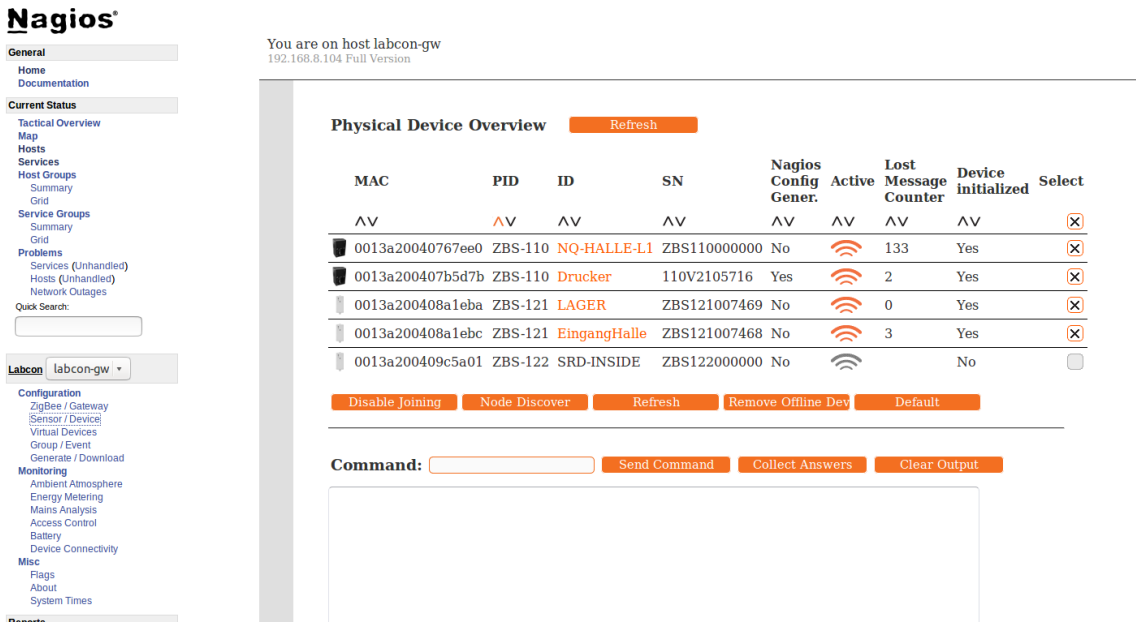
```
sudo service nagis3 restart
sudo service apache2 restart
```

7 Sensor Configuration

Switch to the Nagios page on the Server. The sidebar should now contain the LabCon Menu.

http://<server ip>/nagios3/

Under “Sensor / Device” you can now select the devices which should be logged:



After selection scroll down and click on “Save & Next”.

On the next page you can create some virtual sensor. For further information please refere to the Handbook (Chap. “Virtual Devices”).

On the next two pages go on with “Next”

On step 4/4 press the “Generate” button. If it is successfully generated switch to the server colsole for an update.

```
cd /usr/local/labcon/
sudo ./update_config.sh
```

Confirm the replacement of all files with “A”.

Now the services are in Nagios and will be monitored.

You can check the services in Nagios under “Current Status” → “Services”

8 Troubleshooting

8.1 No Graphs in LanCon

- Check if PNP4Nagios is working
  `http://<server ip>/pnp4nagios`
- Check the round robin database
  `/usr/local/pnp4nagios/var/perfdata/<host name>/<service name>.rrd`
- Check if the apache's listen nic the same who is named in
  `/usr/local/labcon/www/defaults.py`