How To Create Nagios XI 2024 Passive Objects For NLS

Purpose

This document explains how to create Passive Objects in Nagios XI to use with Nagios Log Server. These objects facilitate logging Unconfigured Objects from Nagios XI into Nagios Log Server.

Background

Passive monitoring is when your Nagios XI server receives check results from devices. This differs from Active monitoring where the Nagios XI server itself is responsible for scheduling the checks of devices.

When Nagios XI receives passive check results from devices that it does not know about, these end up in the Unconfigured Objects section of Nagios XI (and recorded in the nagios.log file). These will not be visible in the host and service status pages until they have been turned into monitoring objects, this is a manual step that needs to be performed by a Nagios Administrator.

Using Nagios Log Server, you can observe the nagios.log file for the specific passive events that are recorded. When those events are received by Nagios Log Server, an Output can be used to execute a command that will create the passive objects in Nagios XI.

Creating the passive objects in Nagios XI is performed by using the REST API in Nagios XI. A custom script is used that simplifies the creation of the object using the API.

Requirements

This documentation has the following requirements:

- Nagios XI Server
    - Nagios XI 5.x or higher
    - An administrative user account that has API access enabled
    - Receives passive check results
    - Configured to send nagios.log to your Nagios Log Serve
- Nagios Log Server Instance
    - Nagios Log Server version 2024R1.3.1 or higher
    - Requires that Nagios Log Server is configured with the Nagios Core Filter (explained below)

Configure Nagios Log Server To Receive Nagios XI Logs

You will need to first create a filter in Nagios Log Server to turn the received nagios.log log data into fields that are stored in the Elasticsearch database. The following documentation includes detailed steps on how to create the filter:

Sending Nagios Core Logs to Nagios Log Server

That documentation also contains the required steps to configure your Nagios XI server to send it's nagios.log log file to your Nagios Log Server instance.

You will need to have configured these two steps before proceeding.

Confirm Logs Are Received

Before proceeding any further a test will be performed to ensure that the correct events are being received by Nagios Log Server for passive checks submitted to Nagios XI. The following commands are to be executed on your **Nagios XI** host in a terminal session, they simulate a passive host and service check:

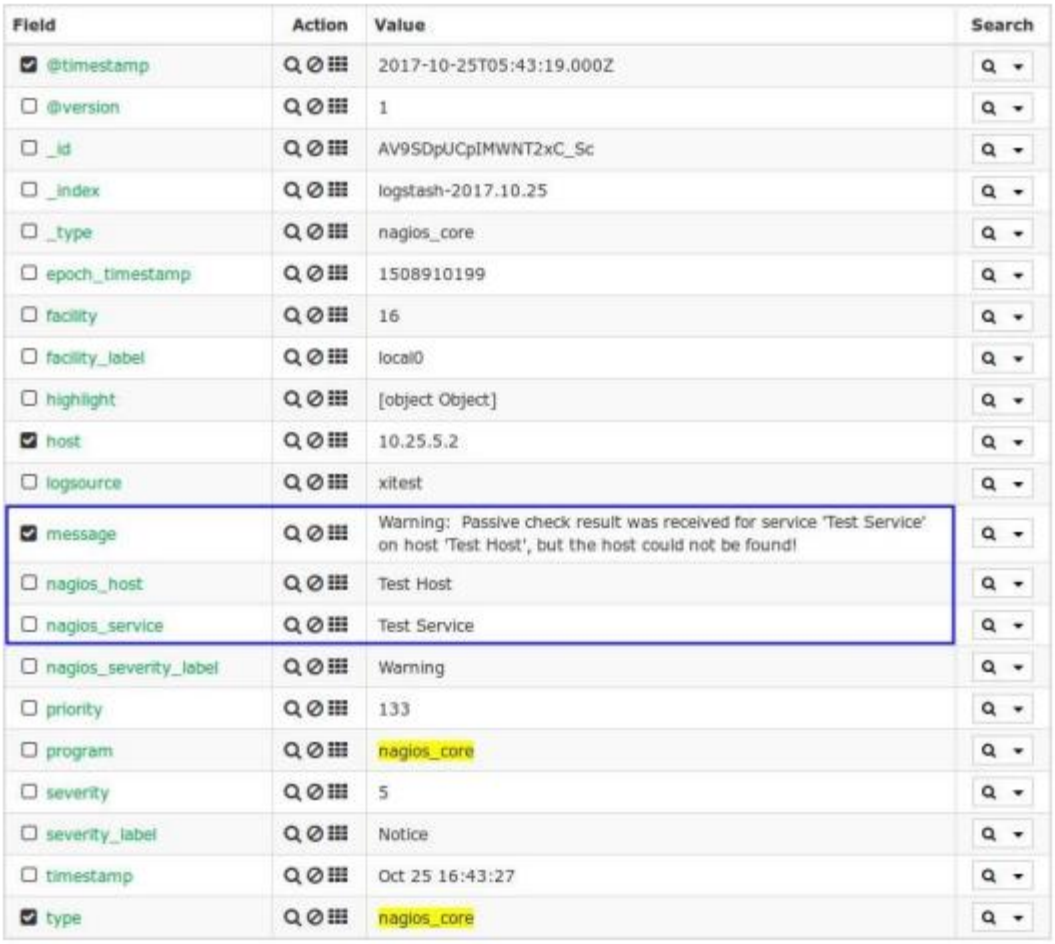
```
now_epoch=$(eval date +%s); printf "[$now_epoch]PROCESS_HOST_CHECK_RESULT;Test
    Host;0;Host output\n" > /usr/local/nagios/var/rw/nagios.cmd

now_epoch=$(eval date +%s); printf"[$now_epoch]PROCESS_SERVICE_CHECK__RESULT;Test
    Host;Test Service;0;Service output\n" > /usr/local/nagios/var/rw/nagios.cmd
```

The commands should be typed as one long command, they just wrap over multiple lines in this documentation due to their length. In **Nagios Log Server**, on the Dashboards page use the query:

```
program:nagios_core
```

You should see an event like this screenshot:



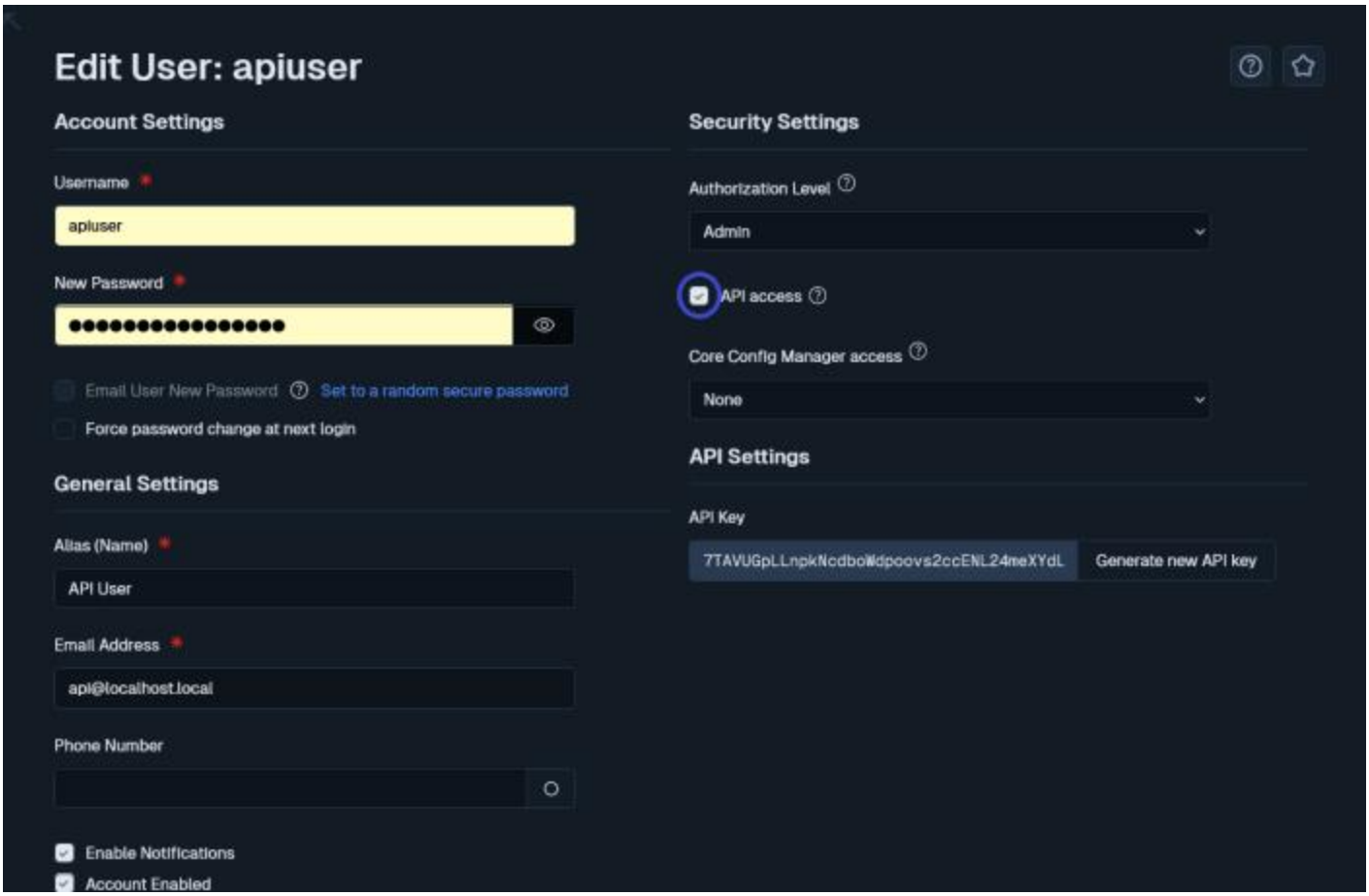
Field	Action	Value	Search
@timestamp		2017-10-25T05:43:19.000Z	
@version		1	
_id		AV9SDpUCpIMWNT2xC_Sc	
_index		logstash-2017.10.25	
_type		nagios_core	
epoch_timestamp		1508910199	
facility		16	
facility_label		local0	
highlight		[object Object]	
host		10.25.5.2	
logsource		xitest	
message		Warning: Passive check result was received for service 'Test Service' on host 'Test Host', but the host could not be found!	
nagios_host		Test Host	
nagios_service		Test Service	
nagios_severity_label		Warning	
priority		133	
program		nagios_core	
severity		5	
severity_label		Notice	
timestamp		Oct 25 16:43:27	
type		nagios_core	

What is important here is the message, nagios_host and nagios_service fields. The nagios_ service field will not be present for a passive host check result.

If your results are similar, then you are ready to proceed to the next step.

Enable REST API Access On Nagios XI User

To be able to create objects using the Nagios XI REST API you require an Admin user account that has REST API privileges. In Nagios XI navigate to **Admin** > **Users** > **Manage Users**. Edit an existing user or create a new user and enable the Has API access setting.



You will also need the API Key for the following steps, you should copy it into a text file so you can paste it later. Be aware that the key may be longer than the size of the box, double clicking it should highlight the entire key.

Test API Script

A script will be used to create passive objects on the Nagios XI server. It simplifies how the API is used by the Nagios Log Server Output you will create later. The script is located here, on your **Nagios Log Server** instance (version 2024R1.3.1 or later):

```
/usr/local/nagioslogserver/scripts/xi_api_create_passive_objects.php
```

You can create a passive host object in Nagios XI by executing the script with the correct arguments. The command requires you to replace these values:

```
xxx.xxx.xxx.xxx = Nagios XI server address (IP or DNS)
your_api_key = The REST API key you obtained earlier
```

On your **Nagios Log Server** instance execute the following command to create the test host object:

```
./ xi_api_create_passive_objects.php --
url='https://xxx.xxx.xxx.xxx/nagiosxi' -- apikey='your_api_key' --type=host
--host='Test Host'
```

If properly executed, you should see the following response in your terminal:

```
{"success":"Successfully added Test Host to the system. Config applied,
Nagios Core was restarted."}
```

Once your script is working you are ready to create an Output in **Nagios Log Server** that will call the script. More information on the script can be found in the API Script Notes section of this document.

Create Output

The last step is to create an Output in **Nagios Log Server**. This output watches the **Nagios Core** log data for messages about objects that don't exist, such as:

```
Error: Got host check result for 'centos01', but no such host can be found
Error: Got check result for service 'New Service' on host 'centos01'. Unable
to find service
```

When these messages are detected, the `xi_api_create_passive_objects` script will be executed on the **Nagios Log Server**, and will:

- Create a new passive Host Object on your Nagios XI server if it is a passive Host check result message
- Create a new passive Service Object on Nagios XI server if it is a passive Service check result message
- If the host object for this service does not exist, it will also be created

The purpose of this output is to automate the creation of the passive host and service objects in **Nagios XI.**

About the passive objects created on your **Nagios XI** server:

- In Nagios XI, when check results are received from a host or service that do not exist, they are added to the "Unconfigured Objects" list (**Admin > Monitoring Config > Unconfigured Objects**)
- You can turn these unconfigured objects into hosts and services by running the "Unconfigured Passive Object" Configuration Wizard
- The passive objects created by the `xi_api_create_passive_objects.php` script are identical to how the wizard creates them

Copy the following code block into a text editor, changing the following values to the values used earlier for your XI server:

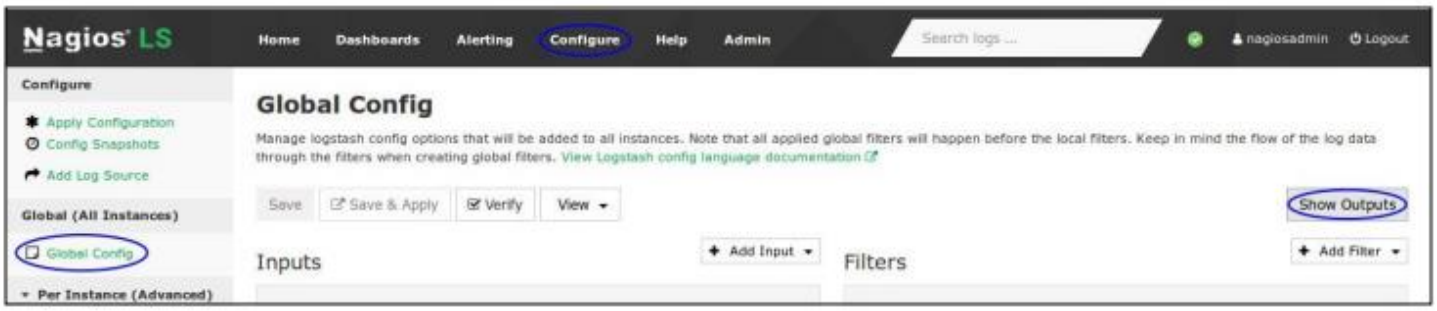
```
xxx.xxx.xxx.xxx = Nagios XI server address (IP or DNS)
your_api_key = The REST API key you obtained earlier

if [program] == "nagios_core" {
   if [message] =~
/^Error:\sGot\shost\scheckresult\sfor\s\'|^Warning:\s*Passive\scheck\sresult
\swas\sreceived\s
for\shost\s\'/ {
```

```
    exec {
         command =>
"/usr/local/nagioslogserver/scripts/box293_xi_api_create_passive_object.php
--url='http://xxx.xxx.xxx.xxx/nagiosxi/' --apikey='your_api_key' --type=host
--host='%{nagios_host}'"
         }
    }
if [message] =~
/^Error:\sGot\scheck\sresult\sfor\sservice\s\'|^Warning:\s*Passive\scheck\sr
esult\swas\sreceived\sfo
r\sservice\s\'/ {
    exec {
         command =>
"/usr/local/nagioslogserver/scripts/box293_xi_api_create_passive_object.php
--
url='http://xxx.xxx.xxx.xxx/nagiosxi/' --apikey='your_api_key' --
type=service --host='%{nagios_host}' --
service='%{nagios_service}'"
         }
    }
}
```

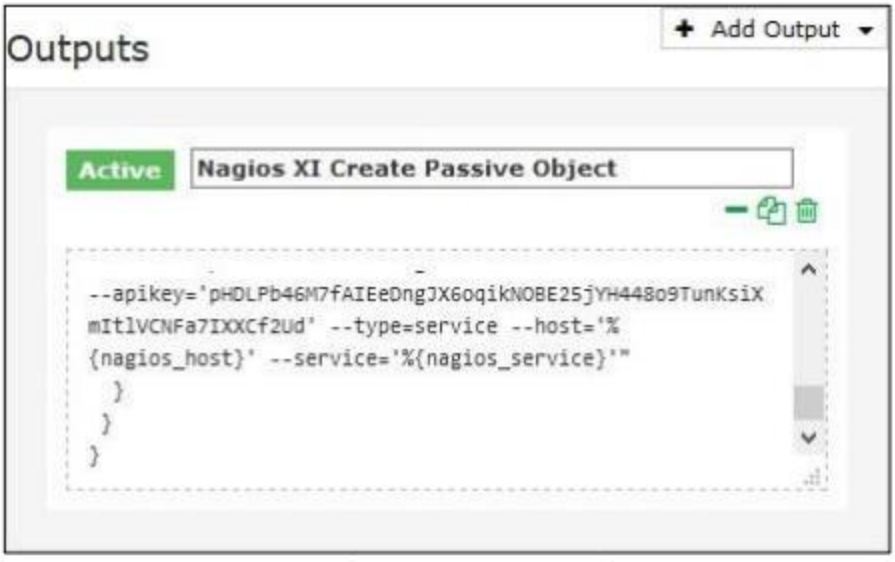
Once you have made those changes, copy the **entire Output** into your clipboard as you will need to paste it into the Output that you create.

Navigate to **Configure** > **Global (All Instances)** > **Global Config** and click **the Show Outputs** button.



You can now click **+ Add Output** and select **Custom**

In the new Output that appears you will need to provide a title in the Block Name field.



In the text area field paste the Output that you previously copied into your clipboard.

Click the **Save** button to create the new Output.

At this point you should click the **Verify** button to ensure the Output you just created is valid. Once the verification is successful you need to apply the configuration. In the left pane under **Configure** click **Apply Configuration**. Click the **Apply** button and then click **Yes, Apply Now** when prompted.

Test

Now that you have completed creating the Output all that remains is to perform a test to ensure everything is working OK. Earlier in this document under the Confirm Logs Are Received section you executed a command, execute a similar command again on your **Nagios XI** server to submit a passive check result, for example:

```
now_epoch=$(eval date +%s); printf "[$now_epoch] PROCESS_SERVICE_CHECK_ RESULT;Another
      Host;Test Service;0;Service output\n" > /usr/local/nagios/var/rw/nagios.cmd
```

Once your **Nagios Log Server** instance receives the log it will execute the Output command and create the new passive object in **Nagios XI**, you can see an example in the following screenshot:

Host	Service	Status	Duration	Attempt	Last Check	Status Information
Another Host	Test Service	Pending	N/A	1/1	N/A	No check results for service yet...

Congratulations, you have now implemented automated passive object creation in Nagios XI using Nagios Log Server.

API Script Notes

You might be wondering why the API script is required. Surely the Output could talk to the API directly. The following explains why the script is used:

- Verifies the script can successfully communicate with the API before creating new objects
- Checks to see if an object exists before creating the new object
- For passive service objects, the script checks to see if the host object exists. If it does not exist, the script will create a passive host object before the service object

The script will initiate an **Apply Configuration** to be performed on your Nagios XI server when it creates the passive objects, this ensures they are part of the running configuration. The script has an "--apply" argument that allows you to disable this functionality, the syntax is:

```
--apply='false'
```

If you add that to the commands in your **Output**, the objects will still be added to Nagios XI however an **Apply Configuration** will not be performed. You will need to manually go into the **Nagios XI Core**

Configuration Manager and perform an **Apply Configuration** for these new objects to be part of the running configuration.

Finishing Up

This completes the documentation on how to create Nagios XI Passive Objects for NLS. If you have additional questions or other support-related questions, please visit us at our Nagios Support Forum, Nagios Knowledge Base, or Nagios Library:

Visit Nagios Support Forum Visit Nagios Knowledge Base Visit Nagios Library