Purpose

This document describes how to create various alerts in Nagios Network Analyzer, such as sending them to a Nagios XI or Nagios Core monitoring server using Nagios Remote Data Processor (NRDP), sending an email, sending SNMP traps and executing scripts.

Target Audience

This document is intended for use by Nagios Network Analyzer Administrators and users looking for information on how to setup alerting.

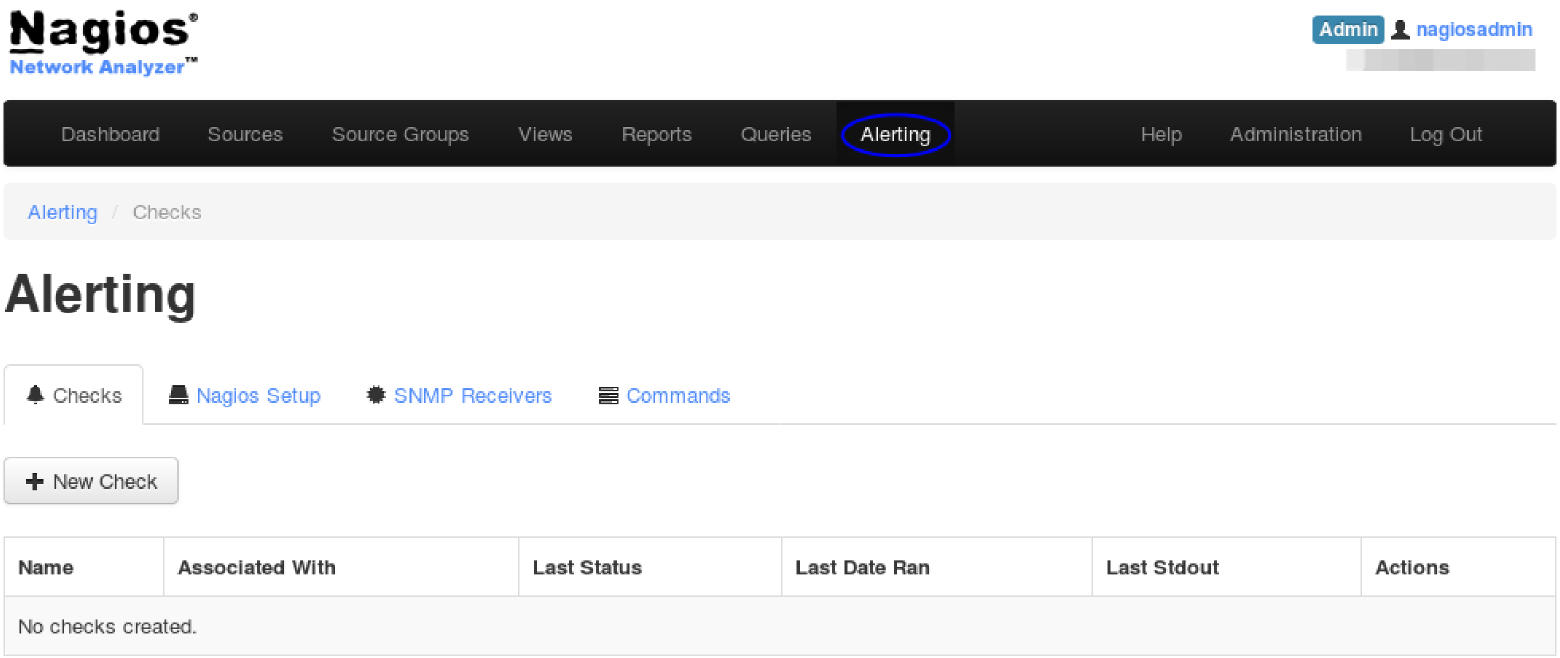
Prerequisites

You will need an existing Source to be able to create checks in Nagios Network Analyzer. Information about this can be found in the following documentation:

Understanding Sources And Sourcegroups In Network Analyzer

Alerting In Nagios Network Analyzer

In Nagios Network Analyzer select **Alerting** from the navigation bar.



Alerting

Name	Associated With	Last Status	Last Date Ran	Last Stdout	Actions
No checks created.					

This is the central location to manage and create alerts.

There are multiple alert methods available in Nagios Network Analyzer.

- **Nagios / NRDP** - Send an alert to your Nagios XI or Nagios Core server using NRDP
- **SNMP Receivers** - SNMP Traps can be sent to other applications using the Nagios MIB
- **Command** - Run a custom command and pass variables to the command
- **Email Users** - Email Nagios Log Server users
- **Nagios XI Network Analyzer Wizard** - You can use the Nagios XI Network Analyzer Wizard to check your sources for Bytes / Flows / Packets / Abnormal Behavior.

For Nagios / NRDP / Network Analyzer Wizard the following documentation can be used, it is very comprehensive:

Integrating Nagios Network Analyzer With Nagios XI And Nagios Core

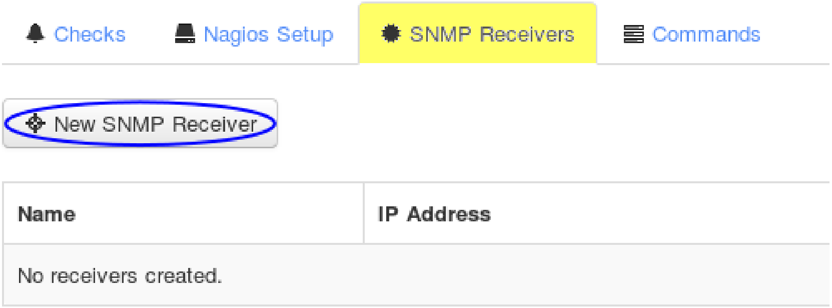
The remainder of this documentation will focus on the **Command** / **SNMP Receivers** / **Email Users** functionality. The **Command** and **SNMP Receivers** alert methods require you to define the settings before you can create an alert. These settings are explained first.

SNMP Receivers

To be able to send alerts to a SNMP Receiver you need to define the details of the receiver.

On the **Alerting** page click the **SNMP Receivers** tab.

Click the **New SNMP Receiver** button.

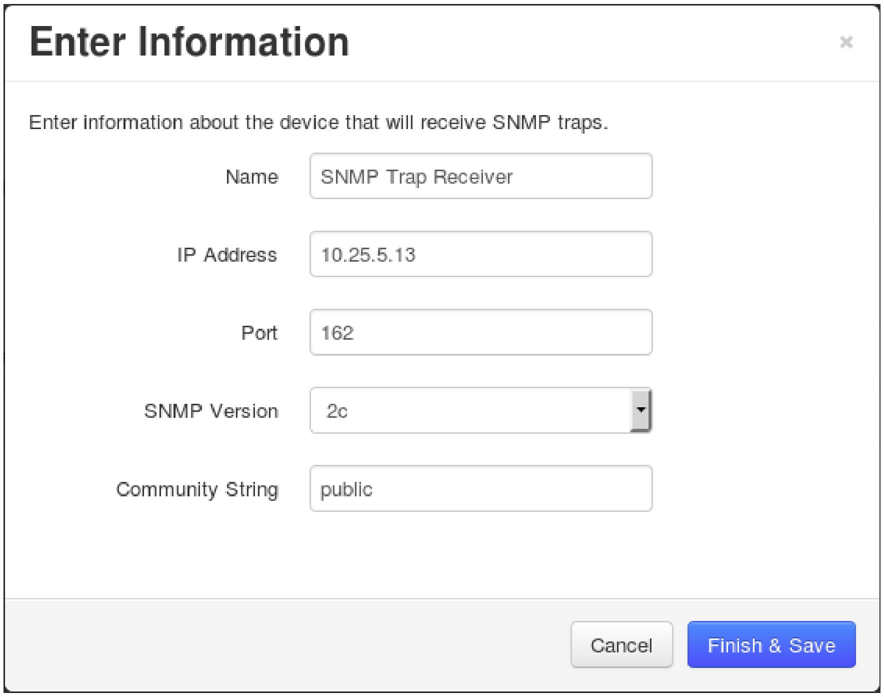


Name	IP Address
No receivers created.	

You will need to provide the following information:

Name: The name of the SNMP Trap receiver you are adding.

Receiver Address: The address that is receiving traps. Could be an NSTI server or a Nagios XI server that is listening for incoming traps. You also need to define the port the traps can be sent on (162 is the standard default).



Enter Information

Enter information about the device that will receive SNMP traps.

Name	SNMP Trap Receiver
IP Address	10.25.5.13
Port	162
SNMP Version	2c
Community String	public

SNMP Version: The version of SNMP you are using, changing the version will change the trap security options available.

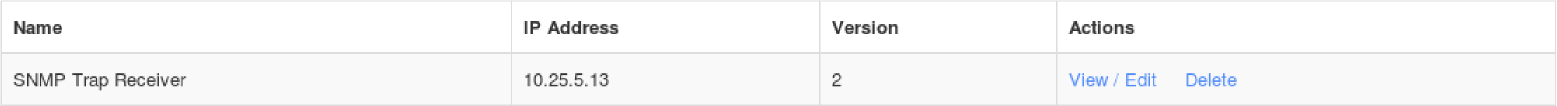
Version 2c

Community String: The community string that the SNMP Trap receiver will accept traps for. This is commonly `public` but depends on how your SNMP Trap receiver is configured.

Version 3

Authorization Level: The authorization method used to send SNMP v3 traps. Your selection here defines the relevant **Authorization** and **Privacy** fields that are shown.

Click the **Finish & Save** button to define the SNMP Receiver. The new command will appear in the list on the SNMP Receivers tab:



Name	IP Address	Version	Actions
SNMP Trap Receiver	10.25.5.13	2	View / Edit Delete

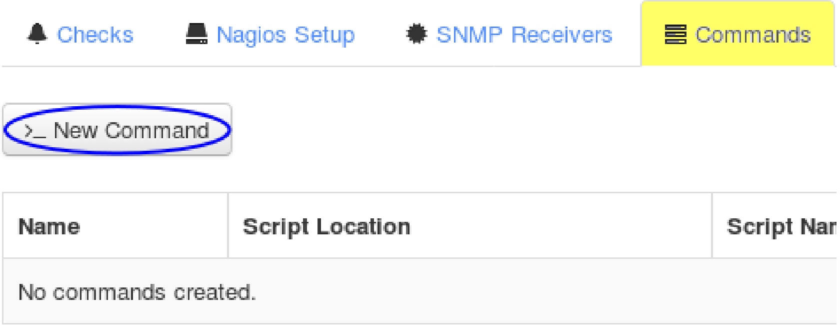
Proceed to the Creating A Check section in this document to define a check that uses the SNMP Receiver.

Command

Nagios Network Analyzer allows you to execute a command as an alerting method. This could be a binary command such as `/usr/sbin/sendmail` or your own custom script. If you use your own script you will need to place it somewhere on the system such as `/usr/local/nagiosna/scripts/`.

Once you've decided on the location of the command you need to define how Nagios Network Analyzer will use it.

On the **Alerting** page click the **Commands** tab and then click the **>_ New Command** button.



Name	Script Location	Script Nar
No commands created.		

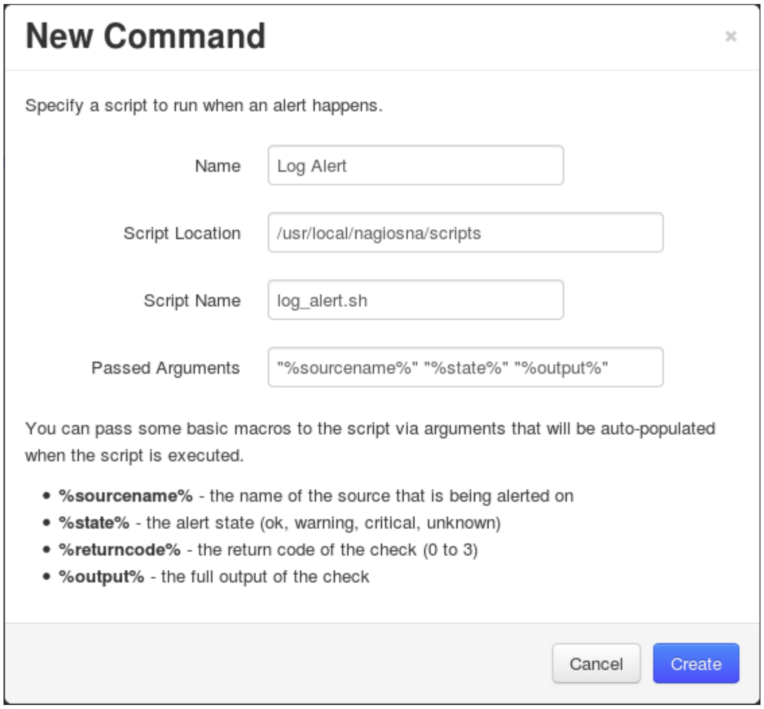
The **New Command** modal will appear.

Provide a **Name** for the command.

You will need to define the **Script Location** and **Script Name**.

You will also need to define the **arguments** passed to the script. This is how you send data to the command, there are Nagios Network Analyzer macros available and they are explained on the modal.

Once you've populated all the fields click the **Create** button.



Specify a script to run when an alert happens.

Name: Log Alert

Script Location: /usr/local/nagiosna/scripts

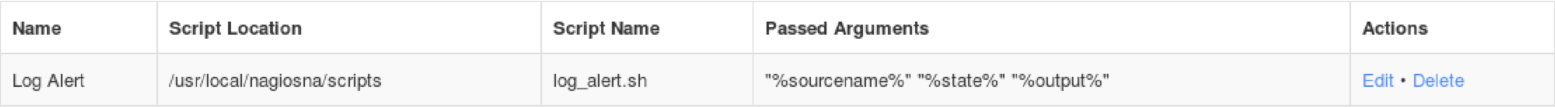
Script Name: log_alert.sh

Passed Arguments: "%sourcename%" "%state%" "%output%"

You can pass some basic macros to the script via arguments that will be auto-populated when the script is executed.

- **%sourcename%** - the name of the source that is being alerted on
- **%state%** - the alert state (ok, warning, critical, unknown)
- **%returncode%** - the return code of the check (0 to 3)
- **%output%** - the full output of the check

The new command will appear in the list on the Commands tab:



Name	Script Location	Script Name	Passed Arguments	Actions
Log Alert	/usr/local/nagiosna/scripts	log_alert.sh	"%sourcename%" "%state%" "%output%"	Edit • Delete

You can now proceed to the Creating A Check section in this document to define a check that executes the command.

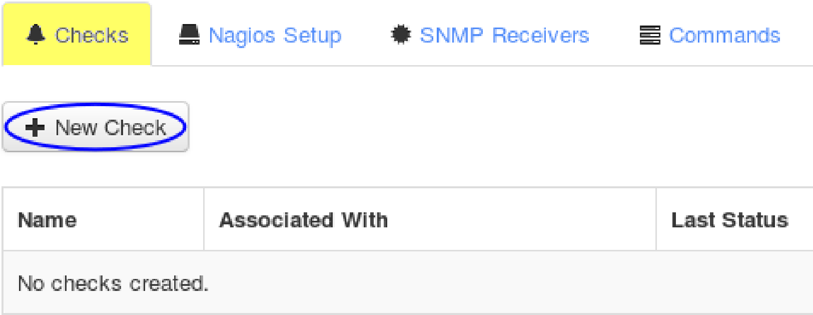
Email Users

To be able to send email alerts in Nagios Network Analyzer you will need to create Nagios Network Analyzer user accounts with their email addresses correctly defined. Once you have done this proceed to the Creating A Check section in this document to define a check that sends emails..

Creating A Check

Checks are how alerts are triggered. The following example creates an check that will notify if a source has no flow data received on the port that the flow data is being received on.

On the **Alerting** page click the **Checks** tab and then click the **New Check** button.



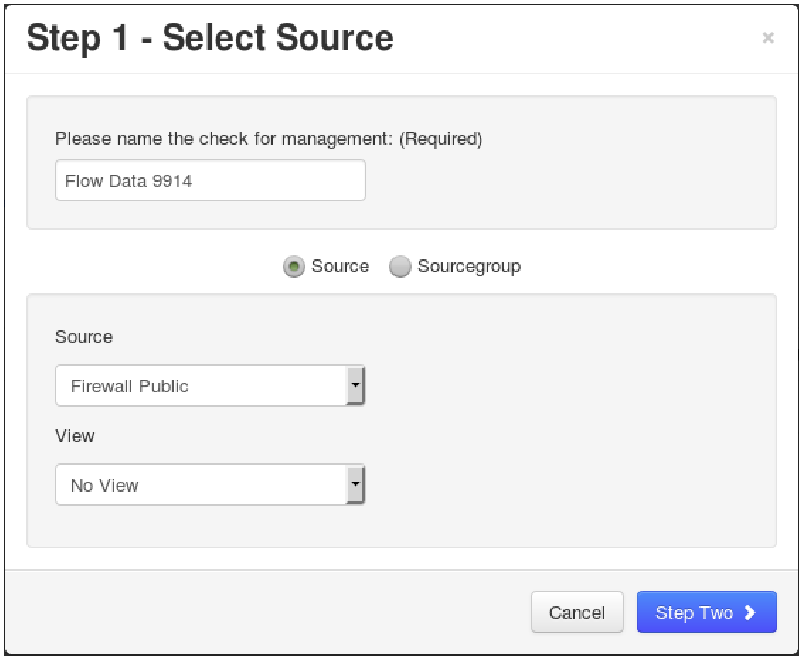
Name	Associated With	Last Status
No checks created.		

Step 1

You must enter a name for the check for management/organizational purposes. It can contain only whitespaces and alphanumeric characters.

Then you need to select your source or source group. This is the source the check will get values from. If you select a source, you can select a view to test against as well.

Click the **Step Two button** to proceed to Step 2.



Step 1 - Select Source

Please name the check for management: (Required)

Flow Data 9914

● Source ○ Sourcegroup

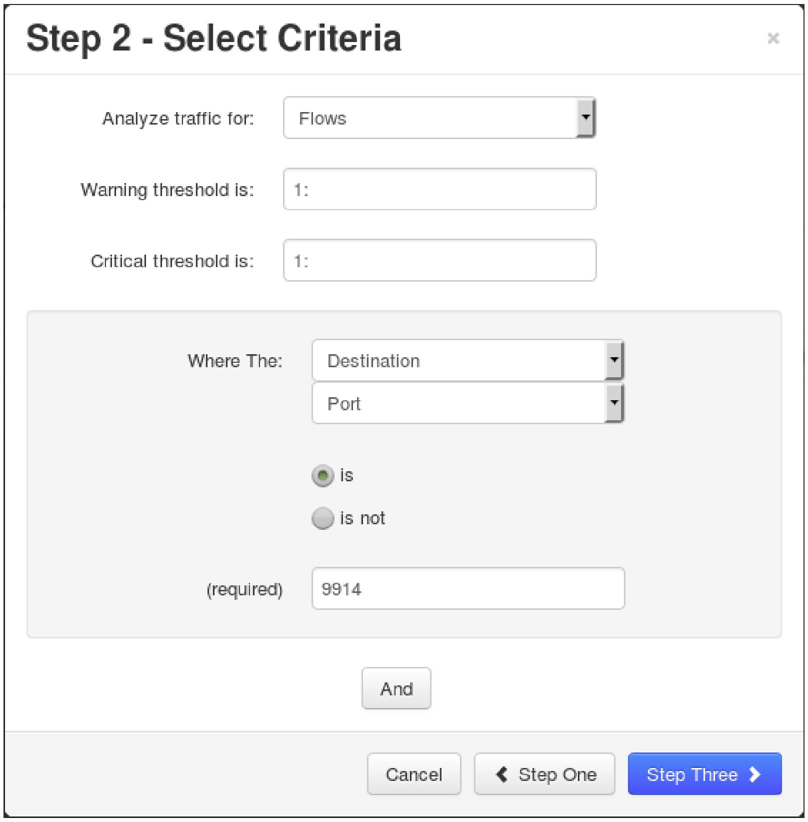
Source: Firewall Public

View: No View

Step 2

Analyze traffic for - This is the metric you would like to get the number for to check against. If you want a packet count, pick Packets. If you want total bytes, pick Bytes. There are several other options, but the point is there are multiple dimensions to the traffic on your network, and this specifies which one will be checked.

Warning and Critical - Once Network Analyzer has extracted a number from the metric you selected, it will use these thresholds to determine if the number is in a WARNING, CRITICAL or OK state. In this example `1:` means that if less than `1` was received then it will be in a CRITICAL state (meaning no flows were received).



Step 2 - Select Criteria

Analyze traffic for: Flows

Warning threshold is: 1:

Critical threshold is: 1:

Where The: Destination Port

● is
○ is not

(required) 9914

More detailed information on thresholds is explained in the Nagios Threshold Values section of this document.

The bottom half of step 2 is how you filter what data the check is looking at, this allows granularity.

In the screenshot on the previous page, **Flows** is the type of traffic being analyzed. The filter criteria used is:

- **Destination** - The direction of the flow traffic being looked at
- **Port** - This check testing to make sure flow data is actually being received, seeing as the flow data is received on a port then this makes it easy to check
- **is** - This is the operation, we want to make sure the destination port **IS** `9914`
- **`9914`** - Here the port number `9914` has been defined

Based on those selections, if no flow data is received it will be in a CRITICAL state, otherwise it will be OK.

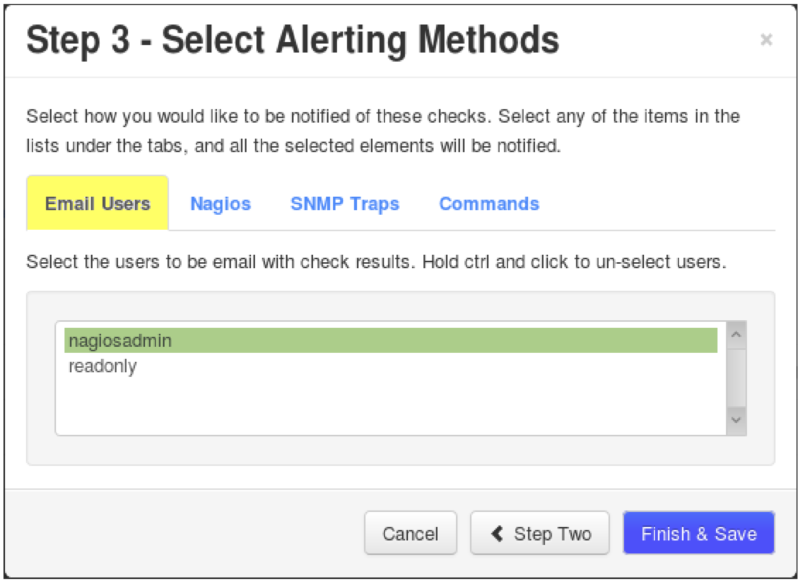
You can specify as many of these filters as you would like by clicking the **And** button at the bottom. It will add a new box where you can specify additional filters. Please note that it is a Boolean AND, where the traffic must meet all specifications that are chosen for the check to be used.

Click the **Step Three** button to proceed to Step 3.

Here you select the alerting method.

The following screenshots show the possible selections you can make.

You can select as many items on the separate tabs as required, hence you can send Emails AND have a Command executed.

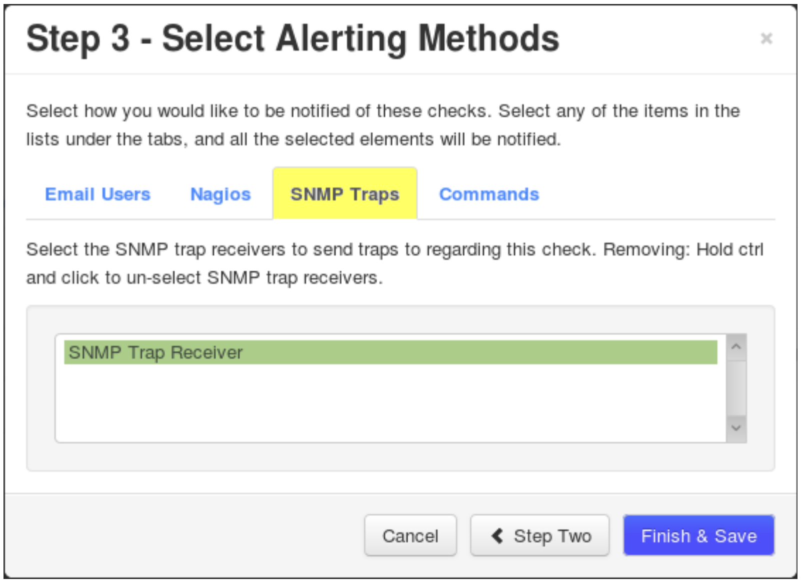


Step 3 - Select Alerting Methods

Select how you would like to be notified of these checks. Select any of the items in the lists under the tabs, and all the selected elements will be notified.

Select the users to be email with check results. Hold ctrl and click to un-select users.

nagiosadmin
readonly

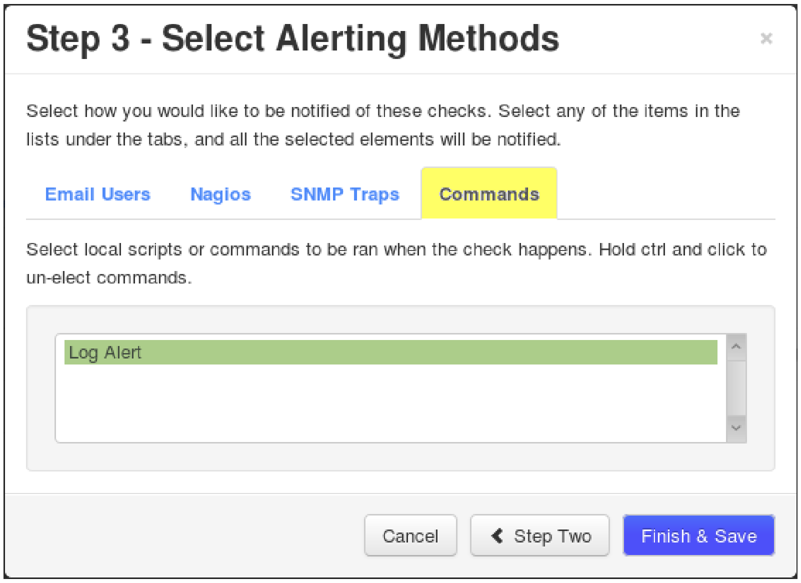


Step 3 - Select Alerting Methods

Select how you would like to be notified of these checks. Select any of the items in the lists under the tabs, and all the selected elements will be notified.

Select the SNMP trap receivers to send traps to regarding this check. Removing: Hold ctrl and click to un-select SNMP trap receivers.

SNMP Trap Receiver



Step 3 - Select Alerting Methods

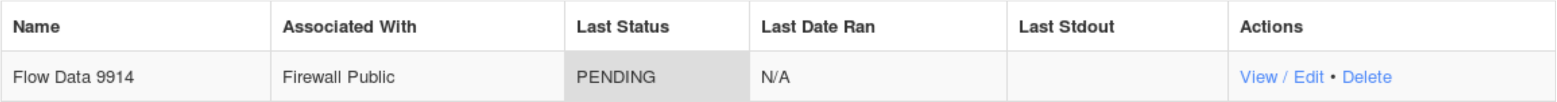
Select how you would like to be notified of these checks. Select any of the items in the lists under the tabs, and all the selected elements will be notified.

Select local scripts or commands to be ran when the check happens. Hold ctrl and click to un-elect commands.

Log Alert

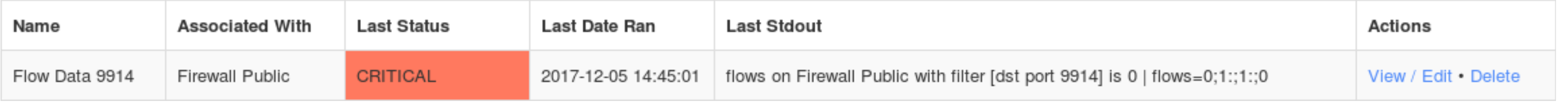
Click the **Finish and Save** button to create the alert.

The check will be created and will appear on the screen in a pending state:



Name	Associated With	Last Status	Last Date Ran	Last Stdout	Actions
Flow Data 9914	Firewall Public	PENDING	N/A		View / Edit • Delete

Here is an example of the check when it had a CRITICAL state:



Name	Associated With	Last Status	Last Date Ran	Last Stdout	Actions
Flow Data 9914	Firewall Public	CRITICAL	2017-12-05 14:45:01	flows on Firewall Public with filter [dst port 9914] is 0 | flows=0;1:;1:;0	View / Edit • Delete

The checks are run every five minutes, it's important to understand that every five minutes the check will fire off a notification to your alerting method.

Check Actions

There are some actions available for the checks you have defined. On the **Alerting** page click the **Checks** tab, the **Actions** has the following:

View / Edit

Review an existing check and make any changes required.

Delete

Delete the check, no more alerts will be sent.

Nagios Threshold Values

Nagios Thresholds can be complicated to initially understand, however once grasped they can be very powerful. Documentation on Nagios thresholds is available here:

https://nagios-plugins.org/doc/guidelines.html#THRESHOLDFORMAT

The Nagios Threshold standards were designed with many different use cases, for example negative numbers are valid values. However in the case of Nagios Network Analyzer, the alert value being tested will always be 0 or greater (no negative numbers are involved).

Finishing Up

This completes the documentation on understanding alerting in Nagios Network Analyzer.
If you have additional questions or other support related questions, please visit us at our Nagios Support Forums:

https://support.nagios.com/forum

The Nagios Support Knowledgebase is also a great support resource:

https://support.nagios.com/kb