The Industry Standard in IT Infrastructure Monitoring

Purpose

One of the most common technical issues that can arise is a failure due to lack of free space. Running out of free space plagues end users and system administrators alike. In this document, we'll describe how to handle this situation gracefully to keep your infrastructure up and running. This tutorial will use NRPE to facilitate communication with the target machine. NRPE can be added to any Windows, Unix or Linux variant.

In this example, the Nagios Reactor event chain will evaluate as follows:

> **IF** the disk space of our target server becomes 90% full
> **THEN** create an incident ticket with the important information
> **ELSE** another loop or fail action

Target Audience

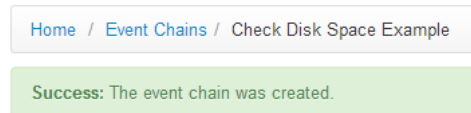This document is intended for network administrators looking to gracefully handle disk space failure.

Define a New Event Chain

To get started, create a new event chain in Nagios Reactor. In this example, we've created a chain called *Restart IIS On Web Server* for this purpose.

Access a copy of the example chain for this document here:
http://assets.nagios.com/downloads/nagios-reactor/addons/event-chains/check-disk-space-example.json

Build the Event Chain Workflow

Home / Event Chains / Check Disk Space Example

Success: The event chain was created.

Check Disk Space Example

General   Workflow   Schedule   History

No blocks defined yet.

Once you create the event chain, you'll have to edit the chain's workflow in order to take actions. To do this, click the **Workflow** tab of the event chain
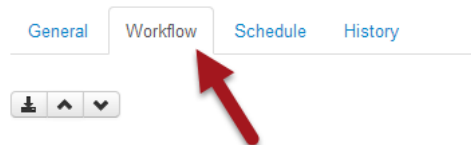
Next, let's start adding some definitions of actions to take:

Click the **Add a block** button.   ⊕ Add a block
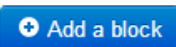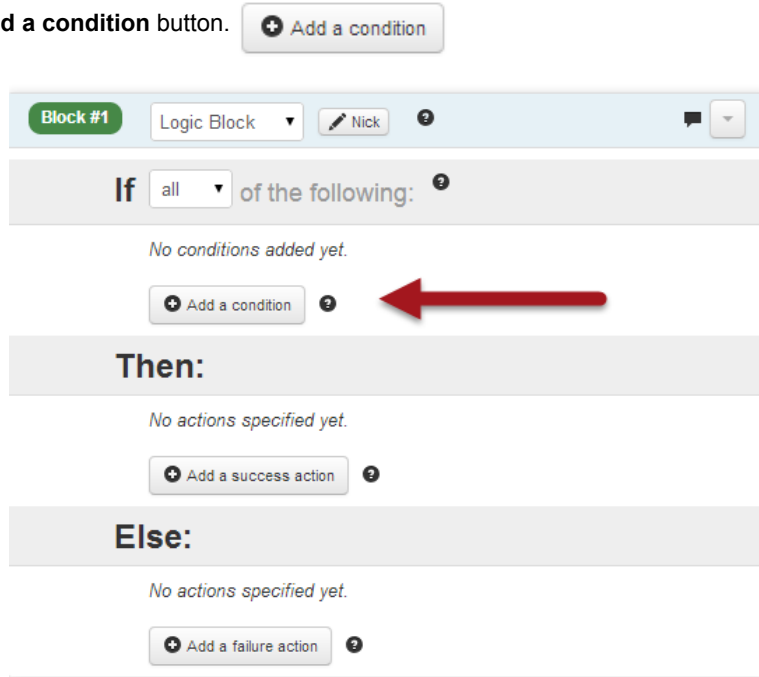
Now we can define the logic that goes into our chain.
To begin, we'll add a new condition which will be to check the disk space of our remote system.
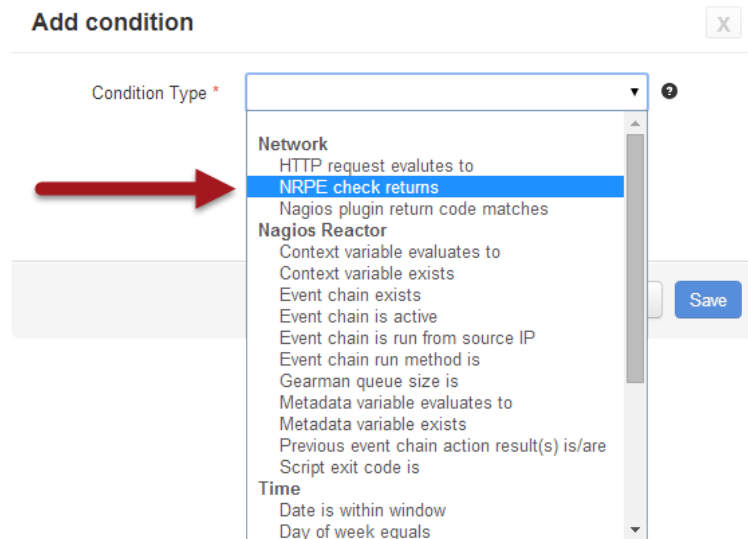
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                                                                                                              Revision 1.0 – August, 2014

To begin:

Under **If**, click the **Add a condition** button. ⊕ Add a condition

From the **Condition Type** dropdown menu, select *Network → NRPE check returns* as illustrated below:

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Next, we'll populate the conditions for our NRPE check. For the greatest flexibility, this document will describe how to make this chain as general as possible.

Here's an example of a condition where all the values have been "hard coded". This works, however it's more efficient to use context variables, which would allow this chain to be used for any IP address or port.

Add condition   X

Condition Type *	NRPE check returns ▼
Host *	192.168.1.1
Port *	5666
Command *	check_disk
Arguments	
Result *	OK ▼
SSL *	SSL ▼

☐ Disabled
☐ Negate condition

Close   **Save**

The following is an example of how we could create a condition for NRPE check returns and how to take advantage of context variables.

Edit Condition

- **Host** – Enter the host name as *"%HOST%"*. This will allow us to supply any machine when the chain is invoked either remotely or locally.

- **Port –** Enter the port number as *%PORT%*.

- **Command** – Enter the NRPE command to run *"check_disk"*. We could also use a context variable for this as well, but since this is the Disk Space demonstration, we'll hard code this for now.

- **Arguments** – Enter any arguments that you want to pass using the -a flag through check_nrpe. Flag described in check_nrpe as '-a <arguments...>' so you can pass as many args as needed and they will be put into the order they are received. (- a $ARG1$, $ARG2$, etc..)

Add condition   X

Condition Type *	NRPE check returns ▼
Host *	%HOST%
Port *	%PORT%
Command *	check_disk
Arguments	
Result *	OK ▼
SSL *	SSL ▼

☐ Disabled
☐ Negate condition

Close   **Save**

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Now, we'll chose our "Then" condition.

Under **Then**, click the **Add a success action** button.

Then:

No actions specified yet.

⊕ Add a success action   ❓

Here we'll define the actions to take when the success condition is met**:**

1. From the **Action Type** dropdown, select *Create a new Nagios IM Incident*
2. **Base API URL** will be the address of the your Nagios Incident Manager server with the API URL at the end.
3. **API KEY** is your unique Key from within Nagios Incident Manager
4. Populate **Incident Title** *Disk Space Alert*
5. Provide a meaningful **summary**
6. Provide an **Incident Type Alias**
7. Set the **priority** for the message (not shown)
8. Set the **Nagios IM users** who will get the message (not shown)
9. Set the **Nagios IM teams** who will get the message (not shown)

This will push a new incident into Nagios Incident Manager.

Add action   X

❶ Action Type *   Create a new Nagios IM Incident ▾ ❓

❷ Base API URL *   http://192.168.4.36/nagiosim/index.php/api
                        E.g. http://example.com/index.php/api

❸ API Key *   61cdd9076e2778fd0362b7641595ba40

❹ Incident Title *   Disk Space Alert

❺ Summary *   !WARNING!

                        Disk Space Alert

                        Your system is running critically low on space.

                        Disk Space Alert

❻ Incident Type Alias * disk-space-alert
                        Alias or ID, e.g. "network-outage"

                                              Close   Save

Once the required fields have been completed, click **Save.**

Here's how our decision tree looks when all is said and done!

If all ▾ of the following: ❓

NRPE command 'check_disk' on host '%HOST%' returns CRITICAL ⊙ ⊗

⊕ Add a condition   ❓

Then:

Create a new Nagios IM Incident ⊙ ⊗

⊕ Add a success action   ❓

Else:

No actions specified yet.

⊕ Add a failure action   ❓

Once you are finished with the setup, click the **Save Changes** button.   ✔ Save Changes

(Don't forget to add a failure action if you desire.
This can kick off another chain or start a point in any block)

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Once the chain has started running and the check_disk condition through NRPE returns a critical, then the **success action** would be to create an incident in Nagios Incident Manager as seen to the right.

As you can see, the user nagiosxi created the incident with an urgent priority and it has the message that was set up in the summary section of the Nagios Reactor success action.

Nagios®
Incident Manager™

Dashboard   Incidents   Reports   Help   Administration   Search Incidents   👤 nagiosxi ▾

Home / Incidents / Disk Space Alert

Disk Space Alert (#6)

[Edit Details]   [Delete Incident]

Summary

!WARNING!

Disk Space Alert

Your system is running critically low on space.

Disk Space Alert

New Message

Subject [   ]
Message * [   ] [Post]

Status [New ▾]
Type Disk Space Alert
Priority Urgent
Updated -
Created 2014-08-12 11:43:57
Created By nagiosxi

Participants

Attached Files

No Files   [Attach File]

Troubleshooting

For testing and troubleshooting, you can launch the action manually:

On the right hand side, click **Actions → Run Now**.

⚙ Actions ▾

☑ Edit Details
👁 View Log
▶ **Run Now**
↻ Clone
⬇ Export

⊘ Make Inactive
■ Stop all Tasks
🗑 Delete

The Log Viewer presents details when run manually. This is very useful when tracking bugs.

Log Viewer - Check Disk Space Example   X

finished with result (0)
INFO - 2014-08-12 16:42:09: STEP 1 : Run complete (success)
INFO - 2014-08-12 16:43:58: STEP 1 : Dispatching task asynchronously
INFO - 2014-08-12 16:43:58: STEP 1 : job submitted to queue.
INFO - 2014-08-12 16:43:58: STEP 1 : ****** BEGIN RUN 1426 ******
INFO - 2014-08-12 16:43:58: STEP 1 : Matching all conditions for step 1
INFO - 2014-08-12 16:43:58: STEP 1 : condition (NRPE check returns) : (context) : Evaluating condition: NRPE command 'check_disk' on host '%HOST%' returns CRITICAL
INFO - 2014-08-12 16:43:58: STEP 1 : condition (NRPE check returns) : (context) : Translated context variable: %HOST% = **192.168.4.27**
INFO - 2014-08-12 16:43:58: STEP 1 : condition (NRPE check returns) : (context) : (NRPE command 'check_disk' on host '%HOST%' returns CRITICAL) evaluated to (true)
INFO - 2014-08-12 16:43:58: STEP 1 : Running success actions.
INFO - 2014-08-12 16:43:58: STEP 1 : action (Create a new Nagios IM Incident) : (context) : Running action: Create a new Nagios IM Incident
INFO - 2014-08-12 16:43:58: STEP 1 : action (Create a new Nagios IM Incident) : (context) : Performing POST request to http://192.168.4.36/nagiosim/index.php/api//incidents/add
INFO - 2014-08-12 16:43:58: STEP 1 : action (Create a new Nagios IM Incident) : (context) : HTTP status was 200
INFO - 2014-08-12 16:43:58: STEP 1 : action (Create a new Nagios IM Incident) : (context) : (Create a new Nagios IM Incident) finished with result (0)
INFO - 2014-08-12 16:43:58: STEP 1 : Run complete (success)

[Close]

This completes the process of automating a disk space check on a given host and creating incidents in IM when an action succeeds.

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Finishing Up

If you have any questions about using Nagios Reactor to check disk space with NRPE, contact our support team via our online forum at: http://support.nagios.com/forum

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