Nagios XI – How To Use The Actions Component

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Purpose

This document describes how to configure the Actions Component within Nagios XI. This includes the custom URLs, linux shell/script, macro, and PHP code evaluation portions of the component. The Actions Component allows a Nagios XI administrator to create customized links to do specific tasks accessible to the user from the Host or Service Status Detail pages.

Target Audience

This document is intended for use by Nagios XI Administrators familiar with Linux shell scripting and argument passing who want to create Quick Actions for objects in Nagios XI.

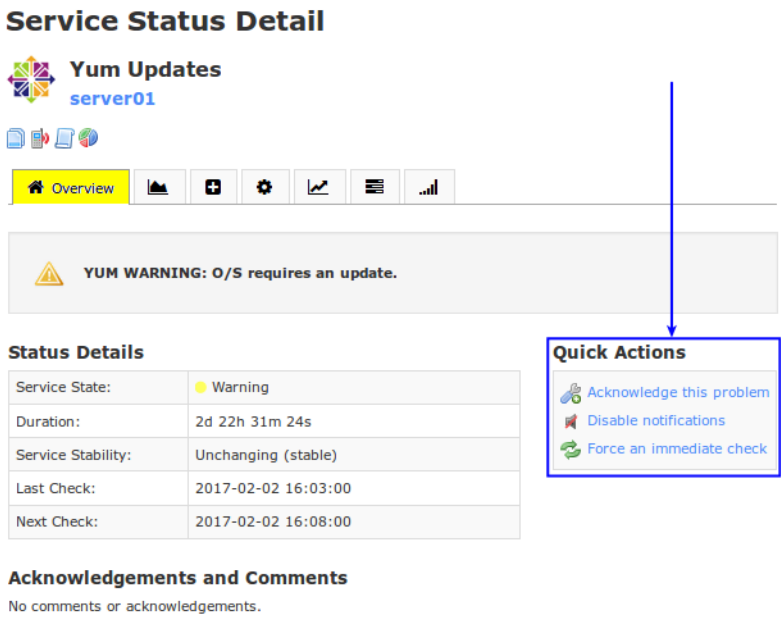
Editing Files

Parts of this documentation you will be required to edit files. This documentation will use the **vi** text editor. When using the vi editor:

- To make changes press `i` on the keyboard first to enter insert mode
- Press `Esc` to exit insert mode
- When you have finished, save the changes in vi by typing `:wq` and press Enter

Component Description and Uses

The Actions component allows Nagios XI administrators to create customized links to do specific tasks, they appear as a link under the **Quick Actions** options on Service and Host Status Detail pages.



They can be as simple as opening a specific URL or as complex as passing specially formatted macros to a shell script to complete a task in bash.

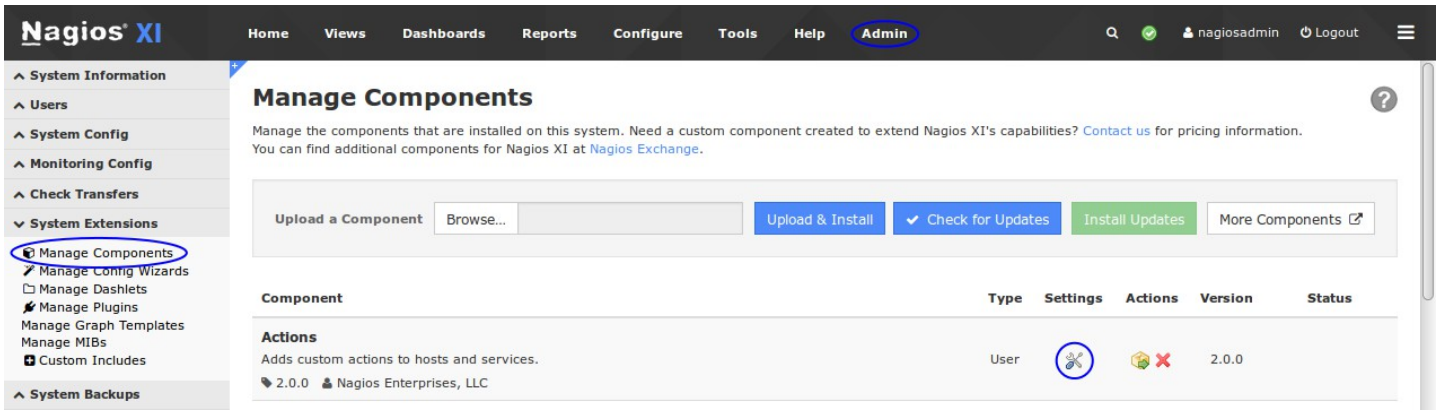
The action can be configured to apply to a select number of hosts or services, specifying objects by their name, group, and/or through regular expressions.

The component also includes the ability of evaluating a block of PHP code to further limit the objects potentially effected by the action. This allows very complex sets of logic to apply to the link. This is one of the most powerful components in Nagios XI, and should be deployed with care.

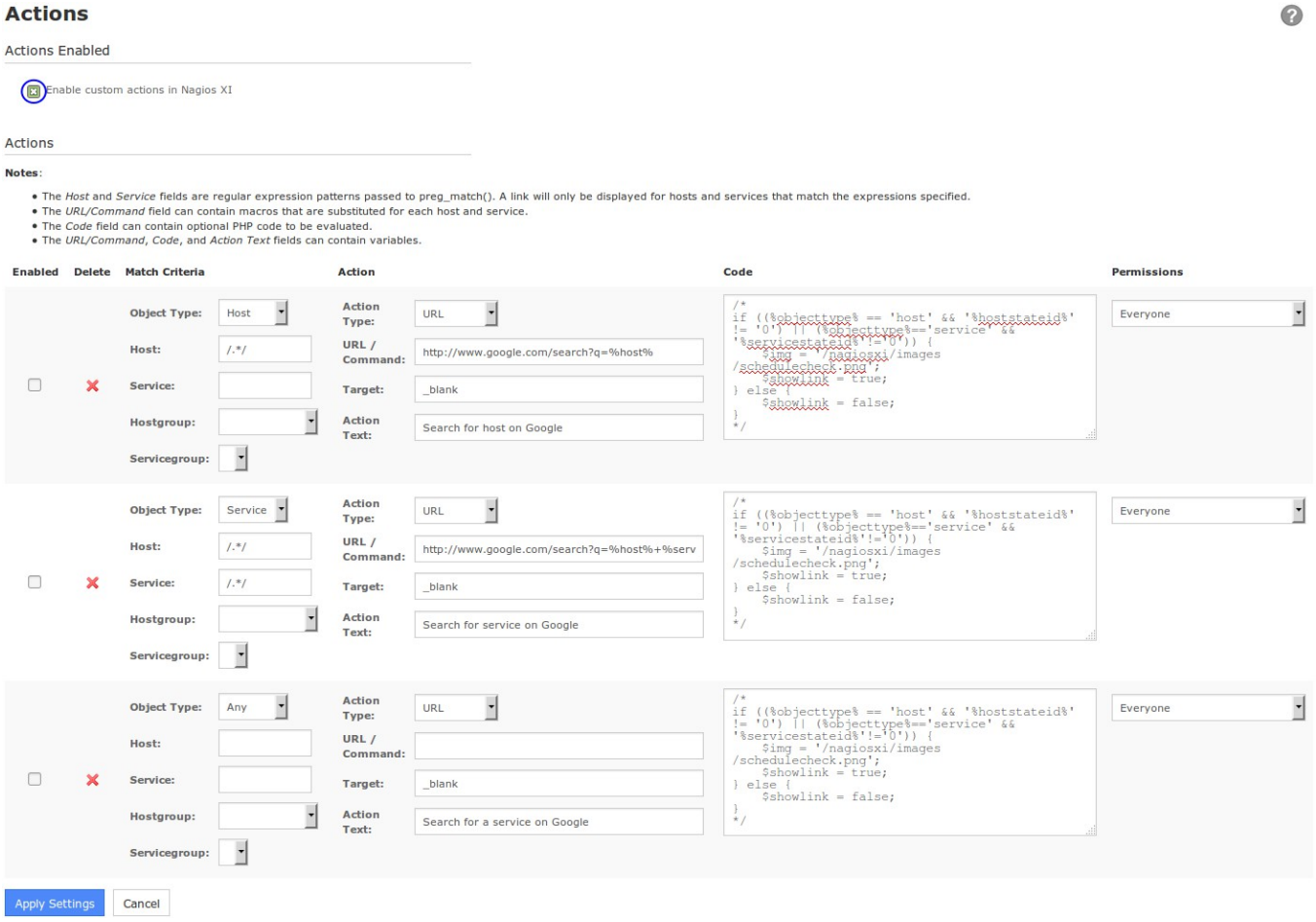
Nagios XI – How To Use The Actions Component

Configuring The Action Component

The Action component is accessible from **Admin** > **System Extensions** > **Manage Components**. Configure the Action component settings by clicking the wrench and screwdriver icon under **Settings**.



This will open up the **Action** component setting page which allows you to create quick action links. Make sure the **Enable Component** checkbox at the top is enabled.



Each quick action link you create has an **Enabled** checkbox. The **Match Criteria** is used to determine which host/services will have this quick action link on their detail page. The **Action** section identifies what action is run when the quick action link is selected. The **Code** section allows for more complex logic to limit when the quick action link is enabled. The Permissions allow you to limit the type of users that will be able to see and use the action.

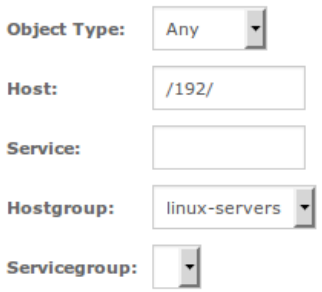
Each section of the Action component is explained in further detail in the following sections.

Match Criteria

The Match Criteria section allows you to specify which objects will receive the quick action links on their details pages. You can limit the effected objects by object type and group type. Additionally, the **Host** and **Service** fields are for regular expression patterns to match in the host or service names of objects (you must wrap the regex with forward slashes). These options are additive, so using more than one of the match criteria will only find objects that match all of the criteria.

For example, the following criteria will apply the action to all hosts and services that belong to a host with "192" in the hostname field and *also* belong to the linux-servers hostgroup:

```
Object Type:  Any
Host:  /192/
Service:
Hostgroup: linux-servers
Servicegroup:
```



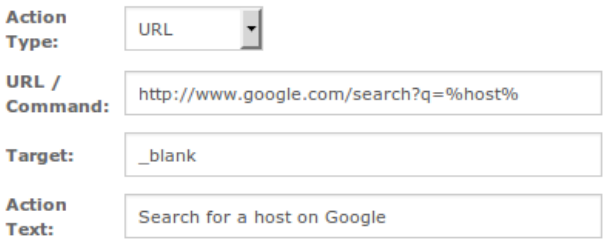
Action

The **Action** section identifies what action is run when the quick action link is selected.

There are 2 types of actions: a URL hyperlink, or a shell Command. Macros (variables) can be used with either. These actions will be run when the quick action link with the respective **Action Text** label is clicked on the host or service details page for any object that matches the Match Criteria.

URL Action Type

This is the most basic portion of the component. When you select an **Action Type** of *URL*, it enables URL links to be displayed in the quick actions list for the specified hosts/services. You must enter the full URL including "http://" if required for your link.



You can additionally use macros in the URL field. On the screenshot to the right you can see %host% is being used in the URL. This will search for the host you are currently viewing.

Here's an example. Lets assume that you have an internal web portal with information about the servers on your network, separated by individual URLs for each server, by the server's hostname in the format of:

```
http://yourwebportal.tld/<hostname>.html
```

`%host%` is the macro which represents the name of the host you will be viewing (Host Status Details page). This means the URL you would then enter into the URL field would resemble:

```
http://yourwebportal.tld/%host%.html
```

If your server in question had the hostname **host1**, the URL for the server's quick action would become:

```
http://yourwebportal.tld/host1.html
```

Command Action Type

This is where the real power of the actions component can be found, using the **Action Type** of *Command*. You can run any shell command or script from the action link, using macros and variables. If you wish to use pipes "|", percentage symbols "%" (other than macros), or other meta characters in your command, you will have to call a script as the actions component is limited on its escaping abilities.

Lets start with a simple command: dmesg. As this command is really only specific to the Nagios XI server, we will set the criteria to only match the hostname "localhost". Create an Action with the following values:

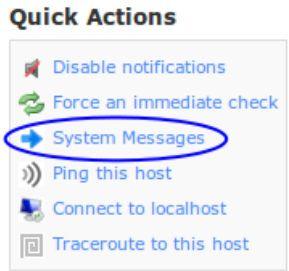
```
Object Type:  Host
Host:  /localhost/

Action Type:  Command
Command:  dmesg
Action Text:  System Messages
```

Make sure the check box for the command is checked to enable the command and then click the **Apply Settings** button.

Navigate to **Home** > **Host Detail** and select the host "localhost".

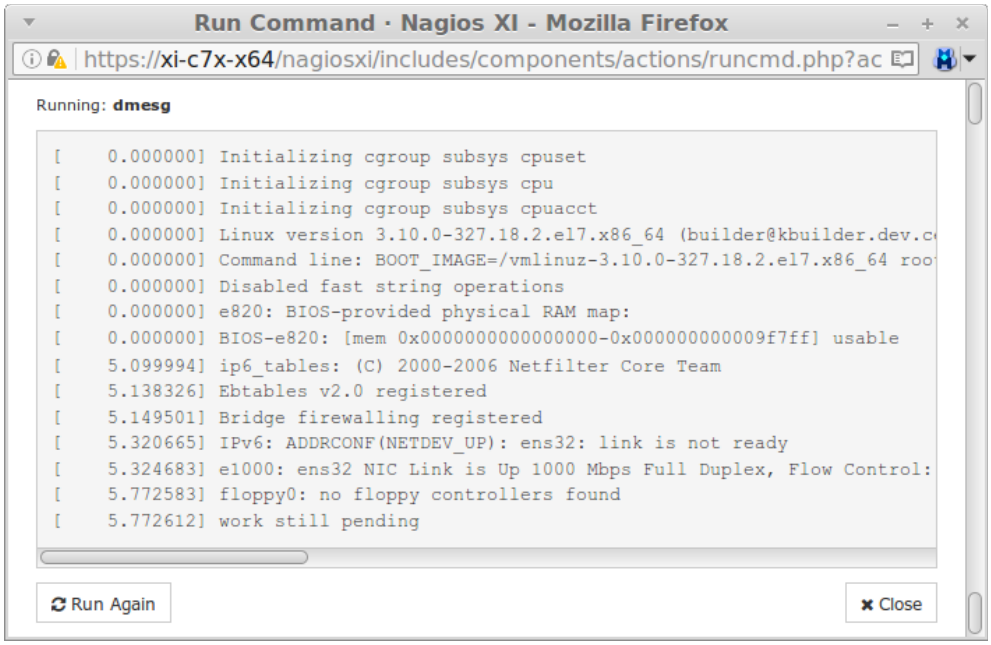
A new quick action should be available: **System Messages**.

Clicking this link will display the output of dmesg.



Here is an example of the output produced by clicking the **System Messages** Quick Action.

The screenshot has been edited to show the command executed (top of the screen) and the two buttons **"Run Again"** and **"Close"**.



Advanced Command Actions

Most advanced actions will require a script and action/object specific macros.

Adding a Comment to a Host Using the Command Pipe

In the following example, we will create an action that submits a comment for any given host by the user "auditor". This action will include the passing of the %host% macro to a script that will write to the Nagios command pipe. More information about the Nagios command pipe can be found at:

https://assets.nagios.com/downloads/nagioscore/docs/nagioscore/4/en/extcommands.html

Establish a terminal session to your Nagios XI server.

You will need to create a script named `security_audit_completed.sh` in `/usr/local/nagios/libexec/`. The following command does that by opening a new file in vi:

```
vi /usr/local/nagios/libexec/security_audit_completed.sh
```

Paste the following code into the file:

```
#!/bin/bash
HOST=$1
/usr/bin/printf "[%lu] ADD_HOST_COMMENT;$HOST;1;auditor;This host has passed security audit\n"
`date +%s`  > /usr/local/nagios/var/rw/nagios.cmd
```

NOTE: the last two lines above are one long line, the `` `date +%s` `` line continues immediately after `\n"` with a space separating the two. Save the changes, you have finished editing this file.

Make the script executable:

```
chmod +x /usr/local/nagios/libexec/security_audit_completed.sh
```

The script above is passed one macro, the hostname `%host%`. The bash script is receiving this as `$1`.

Now the script has been created we need to define the action in Nagios XI, return to the Actions Component to create an action. This action to apply to every host, so you use the regex **`/.*/`** in the Host field. The full details are:

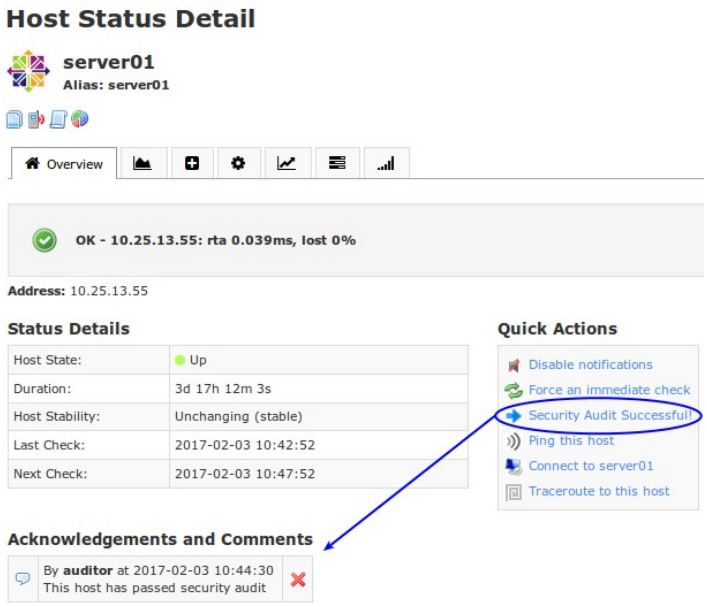
```
Object Type:  Host
Host:  /.*/

Action Type:  Command
Command:  /usr/local/nagios/libexec/security_audit_completed.sh "%host%"
Action Text:  Security Audit Successful!
```

After populating the action with the settings above click **Apply Settings**.

Now navigate to **Home** > **Host Detail** and select any of your hosts.

Click the **Security Audit Successful** link and a pop-up will appear informing you that the command that was run.

You will see a new comment will be added to the Host Status Detail page after a moment or two declaring that the security audit was indeed successful.



Sending an Email (Potentially to a Ticketing System)

You will need to create a script named `notify_host_action.sh` in `/usr/local/nagios/libexec/`. The following command does that by opening a new file in vi:

```
vi /usr/local/nagios/libexec/notify_host_action.sh
```

Paste the following code into the file:

```
#!/bin/bash

DATE=$(date)
HOST=$1
HOSTSTATE=$2
HOSTADDRESS=$3
# Set your ticketing system's email below
EMAIL="email@domain.tld"

/usr/bin/printf "%b" "***** Nagios Monitor XI Alert *****\n\nHost: $HOST\nState:
$HOSTSTATE\nAddress: $HOSTADDRESS\n\nDate/Time: $DATE\n" | /bin/mail -s "** Host Alert: $HOST is
$HOSTSTATE **" $EMAIL
```

NOTE: the last three lines above are one long line. You will want to change the email address in the script to the email of your company. Save the changes, you have finished editing this file.

Make the script executable:

```
chmod +x /usr/local/nagios/libexec/notify_host_action.sh
```

Return to the Actions Component to create an action. This action to apply to every host, so you use the regex **`/.*/`** in the Host field. The above script requires Nagios XI to send it values, these are the macros in the command below and need to be in a specific order so they match up with the bash script. The full details are:

```
Object Type:  Host
Host:  /.*/

Action Type:  Command
Command:  /usr/local/nagios/libexec/notify_host_action.sh "%host%" %hoststatetype% %hostaddress%
Action Text:  Send Email
```

After populating the action with the settings above click **Apply Settings**. Now navigate to **Home** > **Host Detail** for any of your hosts. Click the **Send Email** link and you should now receive an email sent from the Nagios XI system.

Code

In the Action component the **Code** field is by far the most advanced portion of the Actions component. Its original purpose was to further limit the objects that will display the action, but you may discover other use cases. The code has to be valid PHP code.

The default code is commented out, the characters that begin and end the commenting are `/*` and `*/`. For example:

```
/* This sentence could be typed in the Code field and because they are between the comment
markers the text is ignored */
```

The code field cannot be left empty, so if you want nothing in the field simply populate it with **`/**/`**.

If you remove the comment markers from the default code, it will cause the quick action link to only be displayed if the object in question was *not* in an OK or UP state AND it will also define the icon image for the link. Below is the default code in an easy to read format:

```
if((%objecttype%=='host' && '%hoststateid%'!='0') || (%objecttype%=='service' &&
'%servicestateid%'!='0')){
	$img='/nagiosxi/images/schedulecheck.png';
	$showlink=true;
}
else{
	$showlink=false;
}
```

You can use any of the available macros in the Available Macros section of this document to further extend the logic to meet your needs.

Permissions

You can also define the type of users that you want the action to be available for.

- Everyone
  - All users get the action link
- Admin & Users (No Read Only)
  - All users EXCEPT read only users get the action link
- Admin Only
  - Admins get the action link
- Custom
  - Select the specific Nagios XI users that get the action link

Available Macros

The Action Component uses it's own specifically defined macros (not the standard Nagios macros). Each list is specific to the object you are running the action from, even though there is some overlap of available macros. If you configure an action for a group of host objects, only the HOST MACROS should be used, the same applies to service objects and the SERVICE MACROS below.

As previously mention in this document, all macros in the actions component must be wrapped with percentage symbols (`%`), i.e. `%macro%`. Additionally, any macros that has a chance of containing a space should be wrapped in double quotes, i.e. `"%macro%"`, this usually includes the name of an object or return strings and text.

Below is a comprehensive list of all available macros for the component:

HOST MACROS:

```
host
hostname
hostaddress
hostid
hostdisplayname
hostalias
hoststateid
hoststatetype
hoststatustext
hoststatustextlong
hostperfdata
hostchecktype
hostactivechecks
hostpassivechecks
hostnotifications
hostacknowledged
hosteventhandler
hostflapdetection
hostisflapping
hostpercentstatechange
hostdowntime
hostlatency
hostexectime
hostlastcheck
hostnextcheck
hosthasbeenchecked
hostshouldbescheduled
hostcurrentattempt
hostmaxattempts
```

SERVICE MACROS:

```
service
servicename
serviceid
servicedisplayname
servicestateid
servicestatetype
servicestatustext
servicestatustextlong
serviceperfdata
hostchecktype
serviceactivechecks
servicepassivechecks
servicenotifications
serviceacknowledged
serviceeventhandler
serviceflapdetection
serviceisflapping
servicepercentstatechange
servicedowntime
servicelatency
serviceexectime
servicelastcheck
servicenextcheck
servicehasbeenchecked
serviceshouldbescheduled
servicecurrentattempt
servicemaxattempts
host
hostname
hostaddress
hostid
hostdisplayname
hostalias
hoststateid
hoststatetype
servicestatustext
servicestatustextlong
hostperfdata
hostchecktype
hostactivechecks
hostpassivechecks
hostnotifications
hostacknowledged
hosteventhandler
hostflapdetection
```

hostisflapping	hostexectime	hostshouldbescheduled
hostpercentstatechange	hostlastcheck	hostcurrentattempt
hostdowntime	hostnextcheck	hostmaxattempts
hostlatency	hosthasbeenchecked	

Finishing Up

The power of this component comes from the flexibility of shell scripts, macros, necessity and your imagination.

If you have problems using the Action component or other support related issues, please contact our support team using the Nagios Support Forum at:

https://support.nagios.com/forum