Purpose

This document describes how to integrate the Slack messaging platform with Nagios XI. This integration will allow Nagios XI to send notifications to Slack channels, enabling teams to see the health of their devices monitored by Nagios XI.

If you are utilizing Nagios XI 2024, see How to Integrate Slack with Nagios XI 2024.

Target Audience

This document is intended for use by Nagios Administrators that want to use Slack for notifications.

Overview

In Slack you have **Channels** that receive notifications. The Slack API allows you to target these channels by using the channel name, like #itops. This is used to send notifications from Nagios XI to Slack. This documentation will create a Nagios XI **Contact** that will use separate Host and Service notification commands to target Slack Channels called #hosts and #services.

Install Nagios App In Slack

The first step is to install the Nagios App into Slack. Open your web browser to https://slack.com/apps/A0F81R747-nagios and you should see a page similar to the following screenshot:
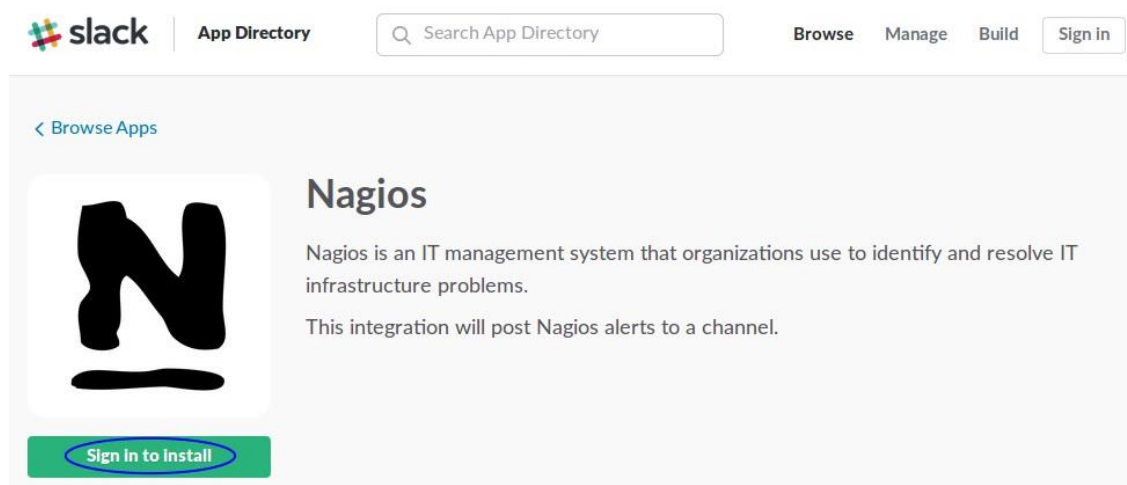
Click the **Sign in to install** button.

You will need to provide your team's Slack URL. Populate the field and then click **Continue**.

You will need to provide your credentials to proceed. Populate the fields and then click **Sign in**.

Once you have signed in, click the **Add Configuration** button.

You will be presented with a summary of the Nagios app. Click the **Add integration** button.

The next page is where you configure the app. The first section is the **Setup Instructions**, please do not follow these as this document will provide you with instructions specific to Nagios XI. There is nothing wrong with the instructions provided on this screen, it's just that this guide will not work if you don't follow every step correctly *(the instructions here aren't specific for Nagios XI)*.

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Integration Settings

Token

This token is used as the key to your Nagios integration.

AQ5MJ3eSkYG63JUMMZFId1PE

Regenerate

Descriptive Label

Use this label to provide extra context in your list of integrations (optional).

Optional description of this integration

Customize Name

Choose the username that this integration will post as.

Nagios XI

Customize Icon

Change the icon that is used for messages from this integration.

N   Upload an image   or   Choose an emoji

Preview Message

Here's what messages from this integration will look like in Slack.

N **Nagios XI** APP 3:16 PM
This is what messages from this service will look like in Slack.
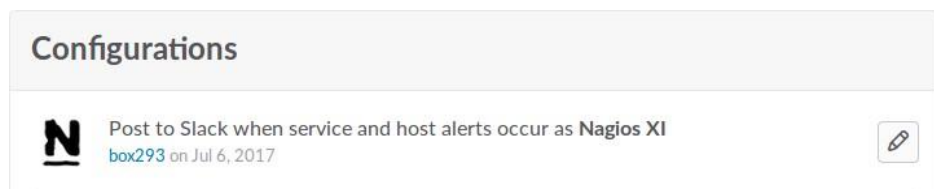
Save Settings

Scroll down to the **Integration Settings** section.

Take note of the value in the **Token** field, this will be required further on.

In the **Customize Name** field you can see that **Nagios XI** has been typed.

Click the **Save Settings** button after making the required changes.

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Once saved this will appear under your Configurations. Clicking the pencil icon allows you to edit it and to view the token again if you forget it.

You have finished with the Slack web page. You may leave it open if you like as you may need to return here to get the Token if you forget it.

Create Channels in Slack

Open the Slack application and next to the **CHANNELS** heading click the + icon.
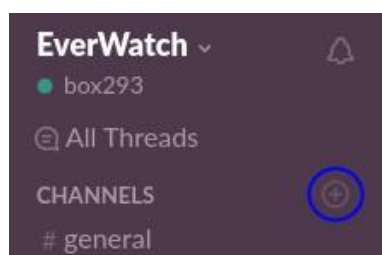
On the **Create a channel** page, provide a **Name**. In the screenshot to the right, you can see the channel being created is called *hosts*.

Optionally provide a **Purpose**.

Click the **Create Channel** button once you've populated the fields.

Repeat this step to create a channel called *services* as this will also be required for this documentation.

Create a channel

Channels are where your team communicates. They're best when organized around a topic — #leads, for example.

Public ● Anyone on your team can view and join this channel.

Name

hosts

Names must be lowercase, without spaces or periods, and shorter than 22 characters.

Purpose (optional)

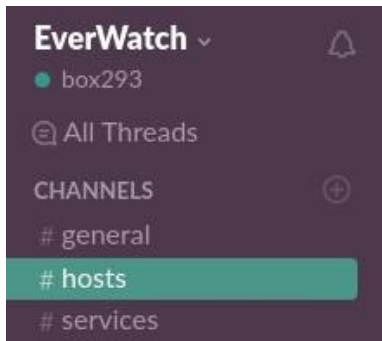Nagios XI Host Notifications

What's this channel about?

Send invites to: (optional)

Search by name

Cancel   **Create Channel**

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Here you can see that two Channels now exist called *hosts* and *services*.

This completes the steps required in Slack. Leave the application open as you'll want to return here once Nagios XI is configured.

Configure Nagios XI

The next step is to configure Nagios XI. This includes:

- Installing Prerequisites
- Installing Slack Integration Script
- Create Commands
- Create Contact
- Assign Commands To Contact
- Assign Contact to Hosts and Services

Installing Prerequisites

Open a terminal session to your Nagios XI server as the root user. Execute the following command to install the prerequisites:

RHEL | CentOS | Oracle Linux

```
yum install -y perl-libwww-perl perl-Crypt-SSLeay perl-LWP-Protocol-https
```

Debian | Ubuntu

```
apt-get install -y libwww-perl libcrypt-ssleay-perl liblwp-protocol-https-perl
```

Wait while they are installed. Leave this terminal session as you'll need it in the following step.

Installing Slack Integration Script

Execute the following commands to download the slack Integration script:

```
cd /usr/local/nagios/libexec/
wget -O "slack_nagios.pl" https://raw.github.com/tinyspeck/services-examples/master/nagios.pl
chmod 0775 slack_nagios.pl
chown apache:nagios slack_nagios.pl
```

The next step is to edit the script and define your slack domain and token.

Execute the following command to open the script in vi:

```
vi slack_nagios.pl
```

When using the vi editor, to make changes press `i` on the keyboard first to enter insert mode. Press `Esc` to exit insert mode.

Find these lines:

```
my $opt_domain = "foo.slack.com"; # Your team's domain
my $opt_token = ""; # The token from your Nagios services page
```

Tip: Type `:66` and press Enter to go directly to these lines.

The first line needs to be your team's slack **domain**, this was provided when you signed into your team on the Slack web page.

The second line is the token that was generated when you added the Slack Integration on the Slack web page.

Make the required changes to these two lines.

When you have finished, save the changes in vi by typing:

```
:wq
```

and press enter

This completes the configuration required at the command line. You can test that it works by executing the following command (it's one long command that wraps over three lines):

```
./slack_nagios.pl -field slack_channel=#hosts -field HOSTALIAS="Test Host" \
    -field HOSTSTATE="UP" -field HOSTOUTPUT="Host is UP" \
    -field NOTIFICATIONTYPE="RECOVERY"
```
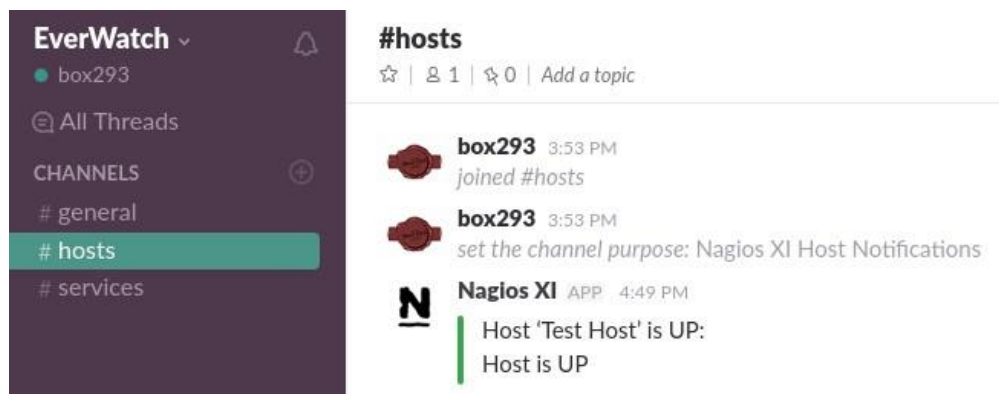
You'll see a lot of output generated in the terminal window; the result should be ***ok***.

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Most importantly you should see it appear in the Slack *#hosts* Channel.

If this works, then you have correctly installed the Slack Integration script.

If this does not work, please review the output in the terminal session as it should provide an error explaining why.

This completes all the steps required in the terminal session, you can close it now as the remaining steps will be performed through Nagios XI Core Config Manager.

Create Commands

The commands are how the Contacts send host and service notifications. You need to create separate commands for hosts and services due to the different data being submitted.

In the left pane expand **Commands** and click **>_ Commands**.

Click the **+Add New** button.
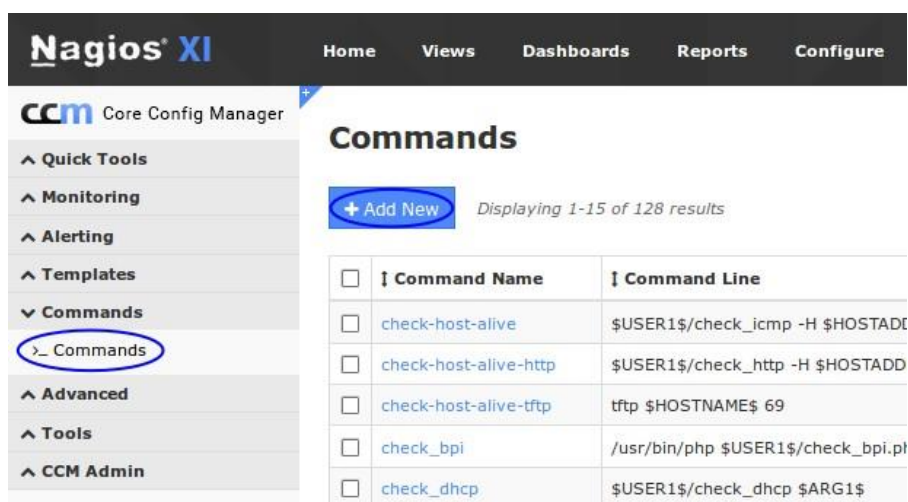
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Populate the **Command Name** field with *slack_host_notification_handler*. Make sure the Command Type is defined as *"misc command"*. Click the **Save** button once you've populated the fields.

Command Name *

```
slack_host_notification_handler
```

Example: check_example

Command Line *

```
$USER1$/slack_nagios.pl -field slack_channel="#hosts" -field HOSTALIAS="$HOSTNAME$" -field HOSTSTATE="$HOSTSTATE$" -
```

Example: $USER1$/check_example -H $HOSTADDRESS$ -P $ARG1$ $ARG2$

Command Type:

```
misc command        ▾
```

☑ Active ⓘ

You will need to repeat the same steps to create the *slack_service_notification_handler* command. The full details of both commands is shown below. The commands are one long line, they are wrapped over several lines due to their size.

Command Name:

```
slack_host_notification_handler
```

Command Line:

```
$USER1$/slack_nagios.pl -field slack_channel="#hosts" -field
HOSTALIAS="$HOSTNAME$" -field HOSTSTATE="$HOSTSTATE$" -field
HOSTOUTPUT="$HOSTOUTPUT$" -field
NOTIFICATIONTYPE="$NOTIFICATIONTYPE$"
```

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Command Name:

```
slack_service_notification_handler
```

Command Line:

```
$USER1$/slack_nagios.pl -field slack_channel="#services" -field
HOSTALIAS="$HOSTNAME$" -field SERVICEDESC="$SERVICEDESC$" -field
SERVICESTATE="$SERVICESTATE$" -field SERVICEOUTPUT="$SERVICEOUTPUT$"
-field
NOTIFICATIONTYPE="$NOTIFICATIONTYPE$"
```
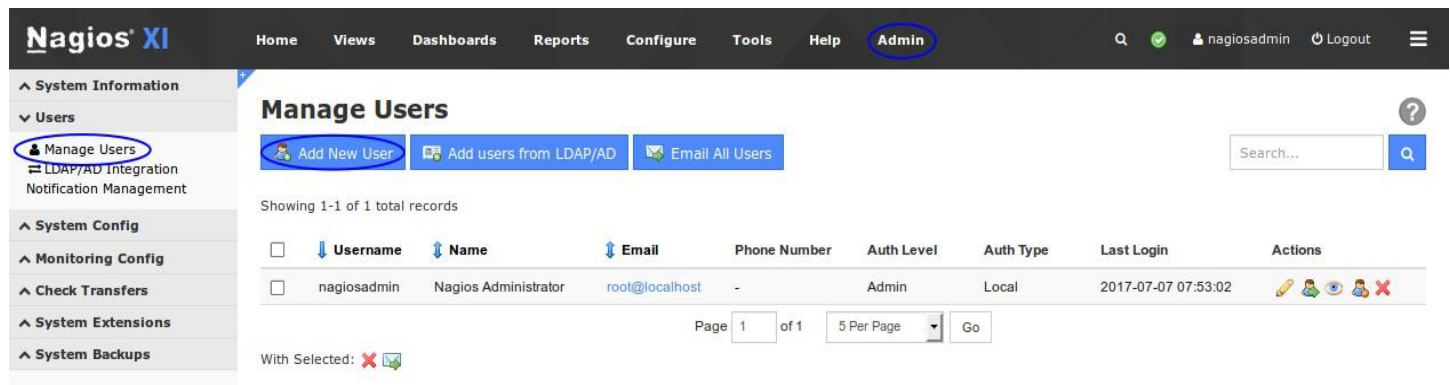
Here is a screenshot of both commands upon creation:

	Command Name	Command Line	Active	Actions	ID
☐	slack_host_notification_handler	$USER1$/slack_nagios.pl -field slack_channel="#hosts" -field HOSTALIAS="$HOSTNAME$" -field HOSTSTATE="$HOSTSTATE$" -field HOSTOUTPUT="$HOSTOUTPUT$" -field NOTIFICATIONTYPE="$NOTIFICATIONTYPE$"	Yes	✂ 📋 💾 ⓘ ✖	129
☐	slack_service_notification_handler	$USER1$/slack_nagios.pl -field slack_channel="#services" -field HOSTALIAS="$HOSTNAME$" -field SERVICEDESC="$SERVICEDESC$" -field SERVICESTATE="$SERVICESTATE$" -field SERVICEOUTPUT="$SERVICEOUTPUT$" -field NOTIFICATIONTYPE="$NOTIFICATIONTYPE$"	Yes	✂ 📋 💾 ⓘ ✖	130

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Create Contact

The next step is to create a Contact to use for Slack notifications. In Nagios XI, when you create a User, it will automatically create a Contact for you, this is the method being shown here. You could of course go into CCM and create the Contact, this would also work fine, but there are a lot of options that need to be defined, and this documentation would be several pages longer showing you how to do this.

Navigate to **Admin** > **Users** > **Manage Users** and click the **Add New User** button.

Populate all the required fields.

The most important options are **Create as Monitoring Contact** and **Enable Notifications**.

All the remaining settings can be left as their defaults.

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Preferences

Language:	English
Date Format:	YYYY-MM-DD HH:MM:SS
Number Format:	1,000.00

Authentication Settings ❓

Auth Type:	Local (Default)

Security Settings

Authorization Level: ❓	User
Can see all objects: ❓	☐
Can (re)configure hosts and services: ❓	☐
Can control all objects: ❓	☐
Can see/control monitoring engine:	☐
Can access advanced features: ❓	☐
Has read-only access:	☐
Has API access:	☐

[Add User] [Cancel]
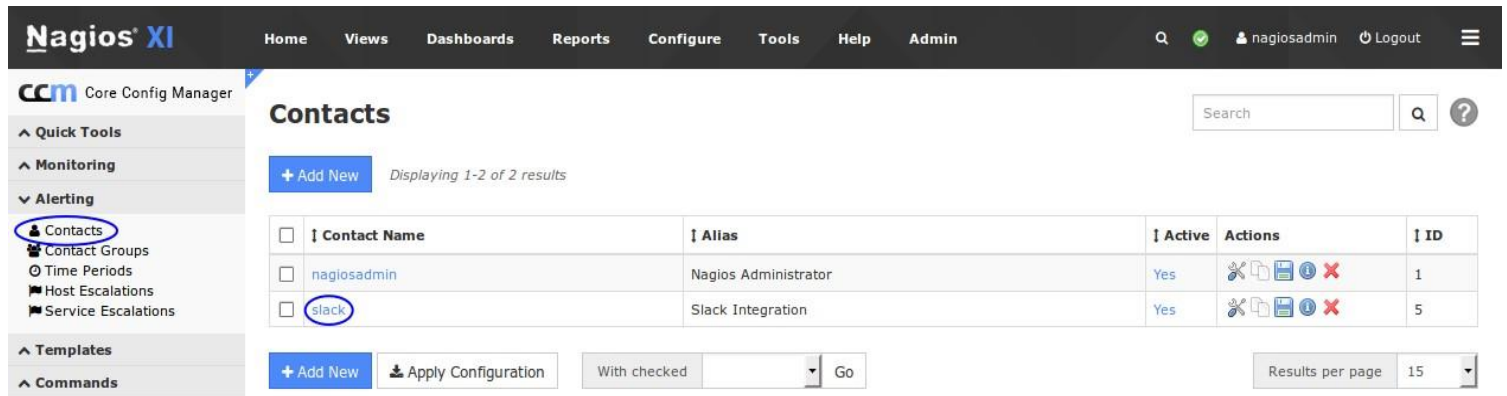
Click the **Add User** button to create the user.

The next step will be to assign the Slack notification commands to this Contact.

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Assign Commands to Contact

Navigate to **Configure** > **Core Config Manager**. In the left pane expand **Alerting** and click **Contacts**.
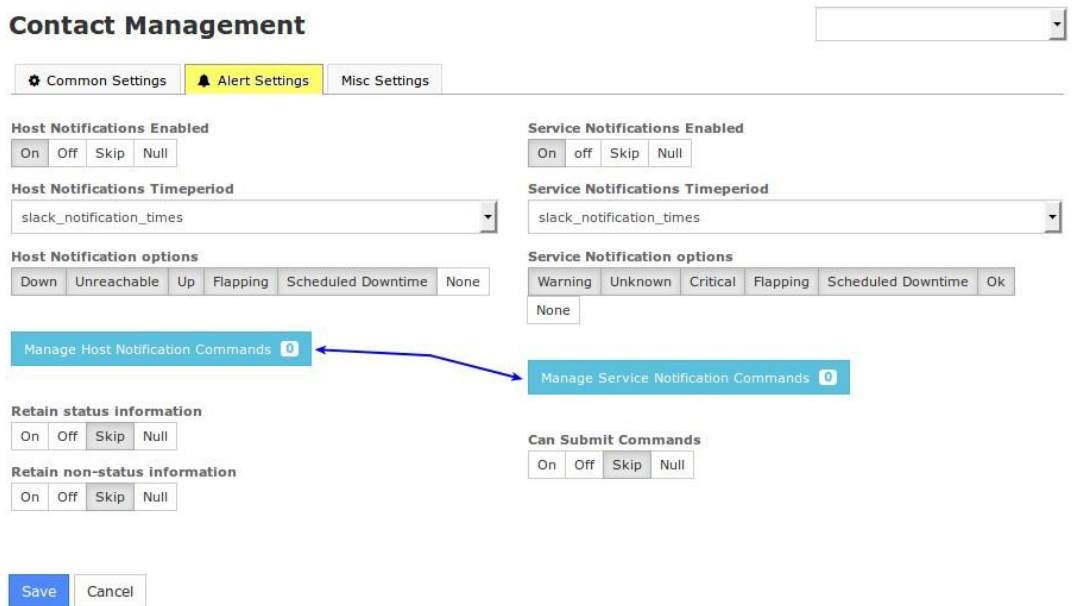

Here you will see the new slack Contact that was just created. Click the Contact Name **slack** to edit it.

Click the **Alert Settings** tab.

There are two buttons here:

    Manage Host Notification Commands

    Manage Service Notification Commands

Click the **Manage Host Notification Commands** button, this will bring up the **Manage** window.

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In the Manage window, select the `slack_host_notification_handler`

command in the left pane and then click the **Add Selected** button to assign the command to the contact's host notifications.

This is for HOST notifications, hence why you added the `slack_host_xxx` command only. Next, we will update our contact's service notifications.
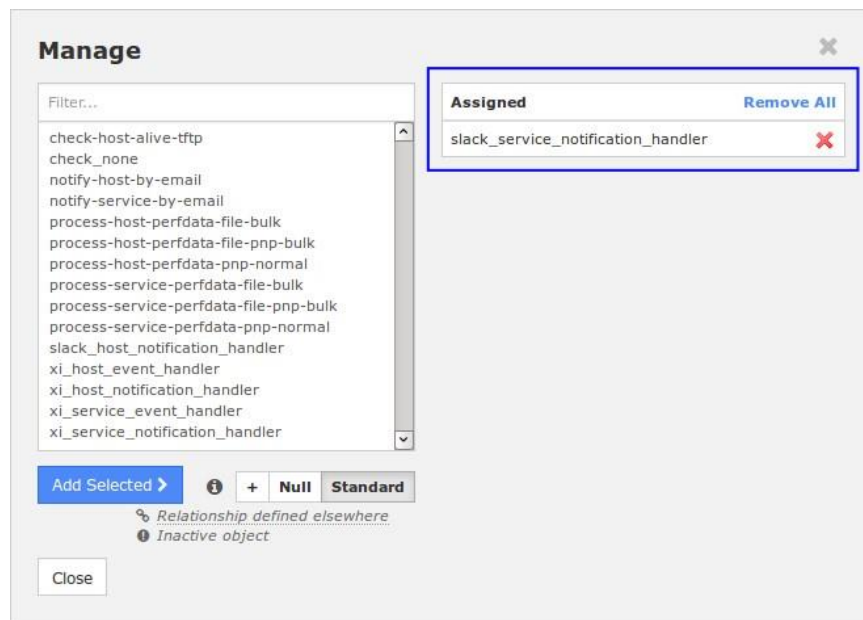
Click the **Close** button.
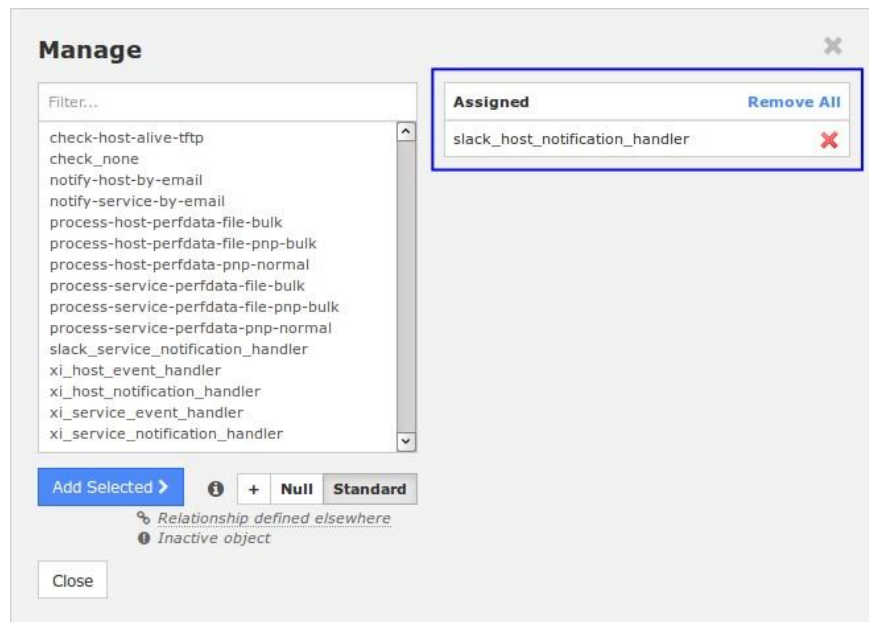
Click the **Manage Service Notification Commands** button, this will bring up the **Manage** window.

In the Manage window, select the `slack_service_notification_handler` command in the left pane and then click the Add Selected button, so it appears in the right-hand pane.

This is for SERVICE notifications, hence why you added the `slack_service_xxx` command only.
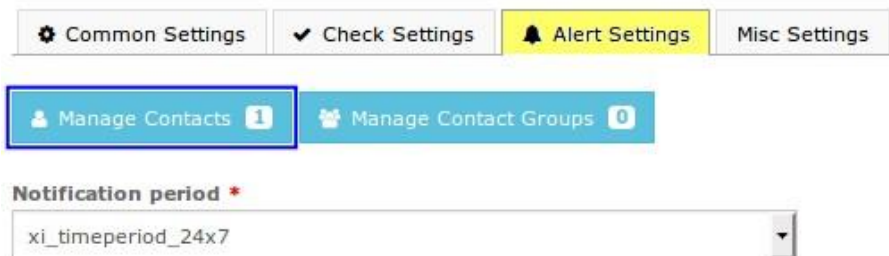
Click the **Close** button.

Click the **Save** button, this completes the changes required for the Contact object.

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Assigning Your Contact to Hosts and Services

The last step is to assign the slack Contact to Hosts and Services that you want to receive notifications for. The steps required for a host or service are the same. In the left pane expand **Monitoring** and click **Hosts** or **Services**. Click one of the host or service objects to edit it.
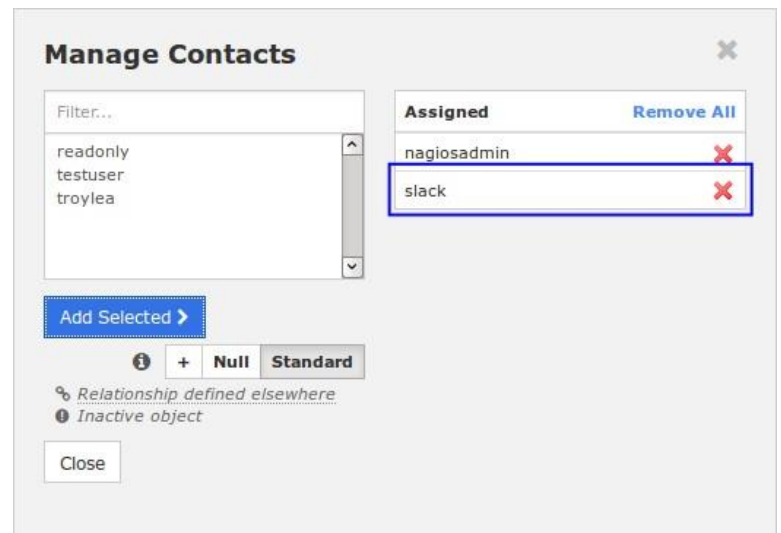

Click the **Alert Settings** tab and then click the **Manage Contacts** button.

In the Manage Contacts window you need to select the slack contact in the left pane and then click the **Add Selected** button, so it appears in the right-hand pane.

Click the **Close** button and then the Save button.

Repeat for as many host and service objects that you want to receive notifications for.

Once you've made your selections click the **Apply Configuration** button to push these changes into the running monitoring configuration.

This completes the configuration steps required in Nagios XI to integrate Slack. The following page shows an alternative way to add the Contact to hosts and services using the **Bulk Modifications Tool**.

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If you have a lot of objects, you can use the Bulk Modifications Tool to add the Contact to multiple objects at once.

In the left pane expand **Tools** and click **Bulk Modifications Tool**.

Click the **Add Contact(s)** button.

On step 2 you need to make multiple selections.

First select the Contact(s) that you want to assign to hosts and services.

Then use the **Select Hosts** and **Select Services** buttons to make your selections.

This screenshot shows how you can select which Hosts you want to assign the Contact(s) to.

You need to select the host(s) in the left pane and then click the **Add Selected** button to make them appear in the right-hand pane.

Click **Close** after making your selections.
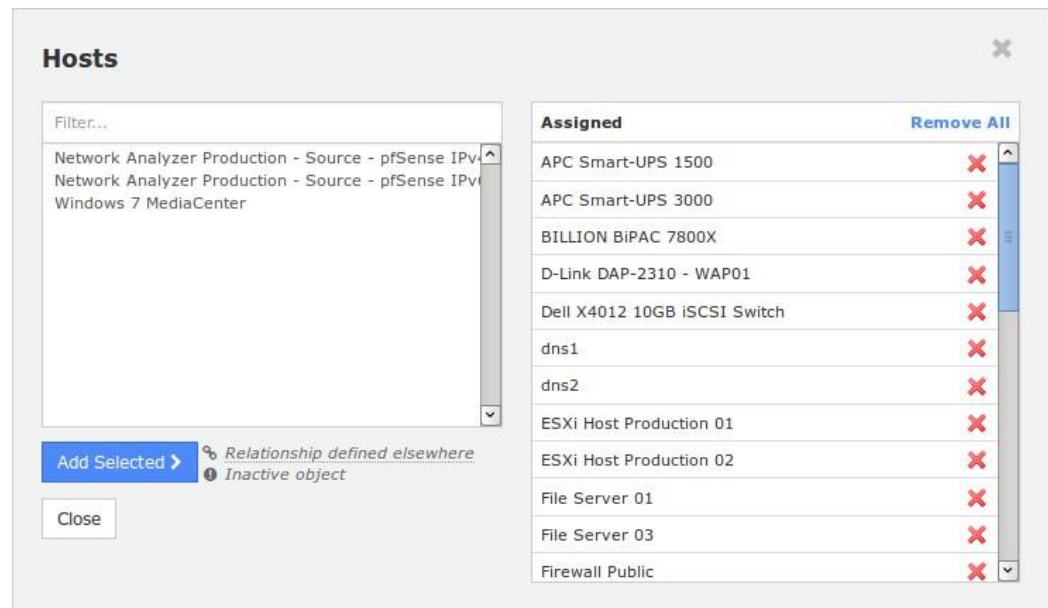
Once you've made all of your selections for Contacts, Hosts and Services click the **Save Changes** button. The Bulk Modifications Tool will then update the CCM database with your changes. You will need to click the **Apply Configuration** button to push these changes into the running monitoring configuration.

Notifications In Slack

Now that Slack has been integrated with Nagios XI, here are some examples showing what you will see in Slack when notifications are sent.

Here is an example of a host notification. To simulate this, I added a firewall rule to drop ping traffic which caused Nagios to see this host as down.
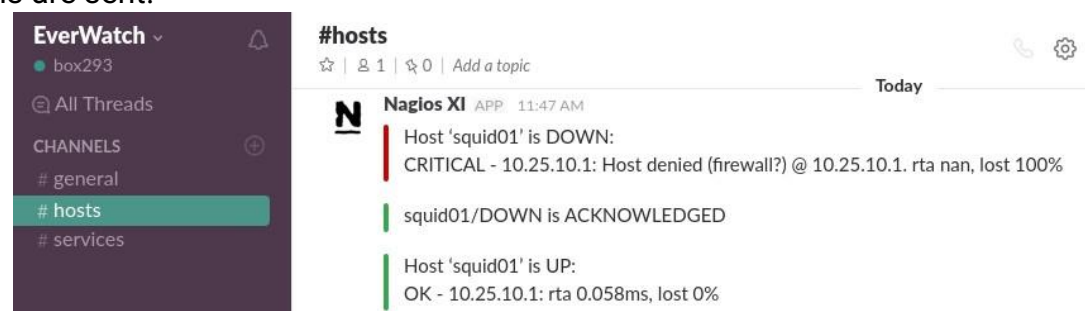
You can see how Slack has a vertical red line for the DOWN notification and a vertical green line for the UP notification.

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Here is an example of a service notification. To simulate this, I ssh'd into this server 6 times which caused Nagios to determine this service was in a warning state and this notification was sent.
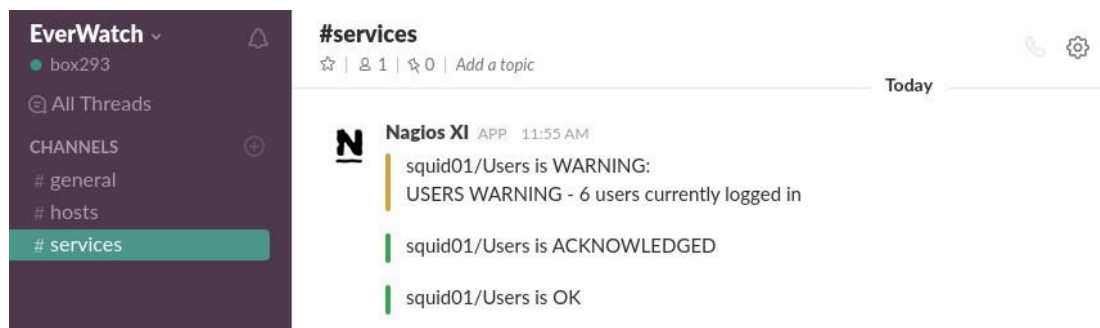
You can see how Slack has a vertical orange line for the WARNING notification and a vertical green line for the OK notification.

Other Methods

In the example demonstrated in this documentation, notifications were sent to separate Slack channels. This is defined in the notification commands created:

```
-field slack_channel="#hosts"
```

```
-field slack_channel="#services"
```

You might want to have slack contacts created for different departments and these contacts would target these channels, such as *#itops* and *#devs*.

You could store the name of the department in a Contact's directive, for example the *pager* directive.

Then in your host and service notification commands you would reference the pager directive using a macro:


```
-field slack_channel="$CONTACTPAGER$"
```

This demonstrates the flexibility of Nagios and using Macros in commands.

Finishing Up

This completes the documentation on how to integrate Slack into Nagios XI.

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

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