How To Understand Multi-Tenancy in Nagios XI 5

Purpose

This document describes how to configure Nagios XI to support multi-tenancy to allow multiple users or clients to share access to a single Nagios XI instance. This ensures those specific users have access only to hosts and services they are authorized to view and maintain. This document is designed for use by Nagios administrators, hosted service providers, and companies that wish to expose different hosts and services to different departments, different clients, or similar situations where there needs to be segregated access to monitored entities.

Note: If you are using **Nagios XI 2024**, please refer to the updated document.

Additional Resources

In addition to this document, Nagios administrators should be familiar with the following documentation:

Nagios XI Users and Contacts

This document provides supporting information to successfully implement multi-tenancy with Nagios XI.

Multi-Tenancy Overview

Multi-tenancy allows administrators to configure Nagios XI in such a way that the following criteria can be met:

- A single Nagios XI instance can monitor hosts and services for multiple users (clients)
- Each user (client) can only see the hosts and services they are authorized to view and maintain

Permissions and Multi-Tenancy

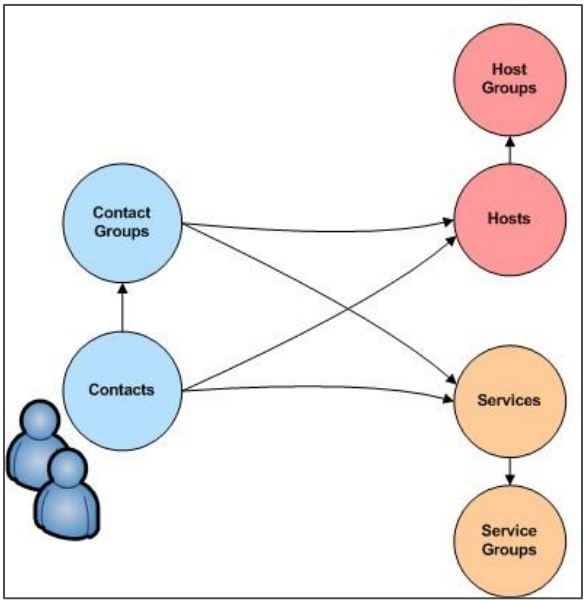
A key component of multi-tenancy is the ability to restrict a given user's permissions to allow them to see and control only hosts and services they are authorized to view and maintain. Nagios XI automatically determines what hosts and services a user is authorized to see based on their relationship to those hosts and services.

By default, Nagios XI grants users permission to see and control hosts and services that are configured to:

- Send alerts to the user (contact)
- Send alerts to a contact group the user (contact) is a member of

A key to understanding the relationships between objects and the corresponding permissions that contacts have is to know how different types of objects relate to each other:

- Users (contacts) may belong to one or more contact groups
- Hosts and services may be configured to send alerts to multiple contacts or contact groups
- Hosts and services may be members or one or more host groups or service groups, respectively



Getting Started

This guide will take you through the steps of configuring Nagios XI to support multi-tenancy, including:

- Creating users / contacts
- Defining contact groups
- Configuring hosts and services
- Defining host groups

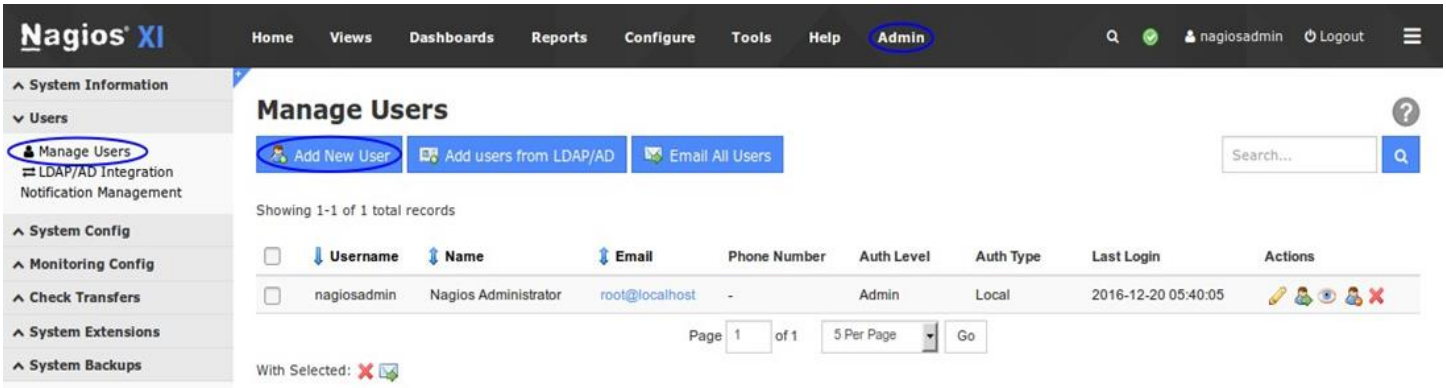
Administrative Login

If you haven't already done so, login to Nagios XI as the **nagiosadmin** user. You'll need to perform operations which require administrator access in the following steps.

Creating Users And Contacts

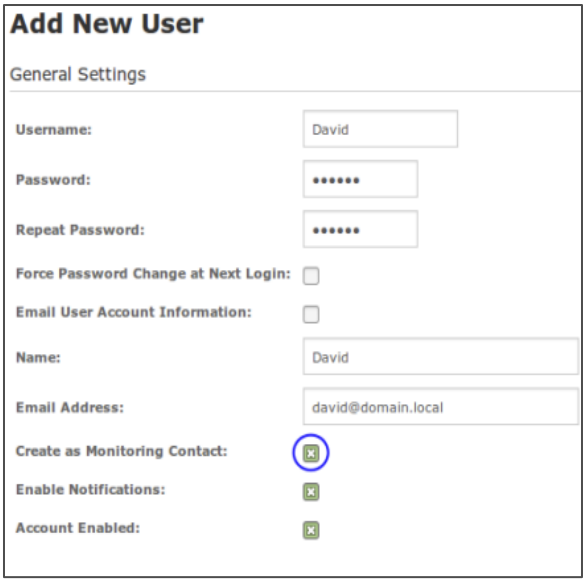
The first step in creating a multi-tenant Nagios XI installation is the creation of multiple user accounts.

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

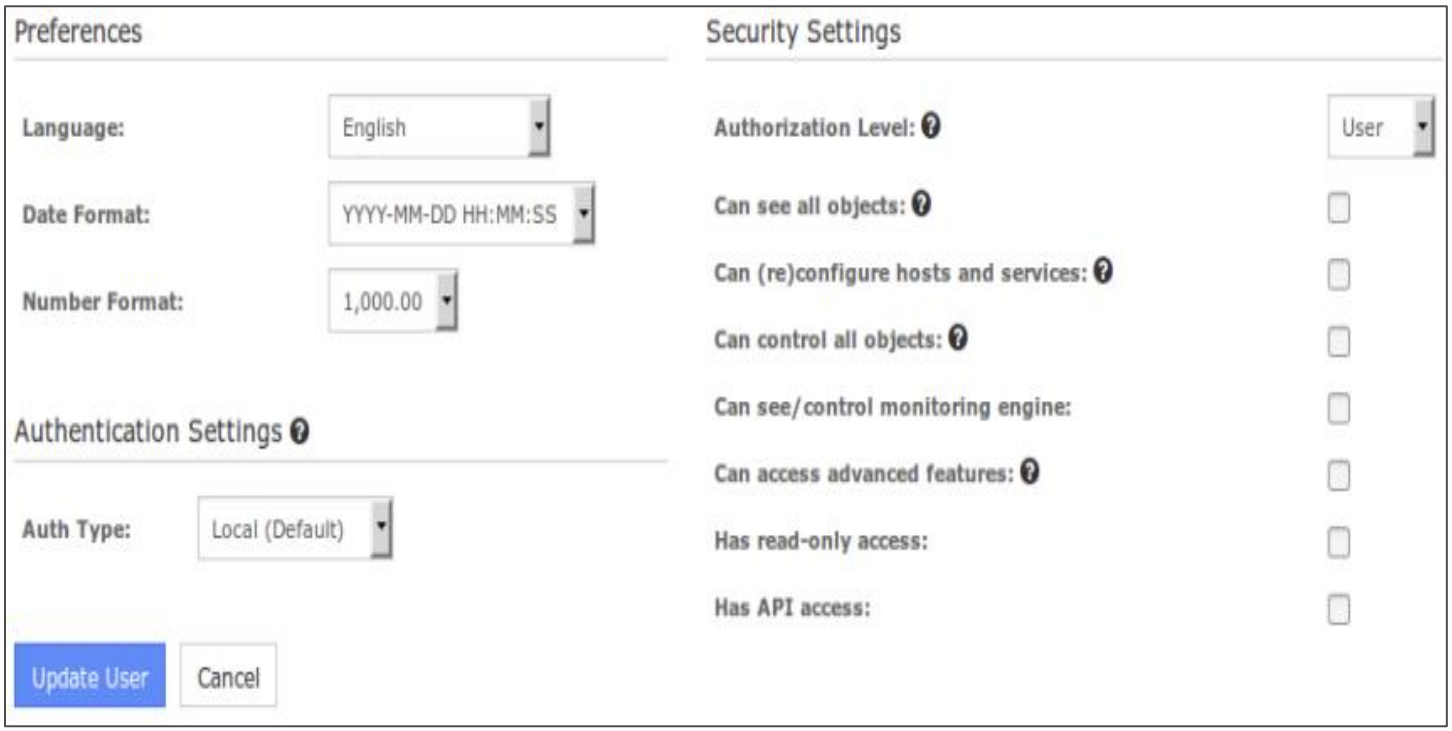


Populate the fields as required.

The most important option is the **Create as Monitoring Contact** checkbox, this is how the multi-tenancy security model works.



It's also worth mentioning that the **Can see all objects option** will prevent the multi-tenancy from filtering the objects the user is allowed to see.

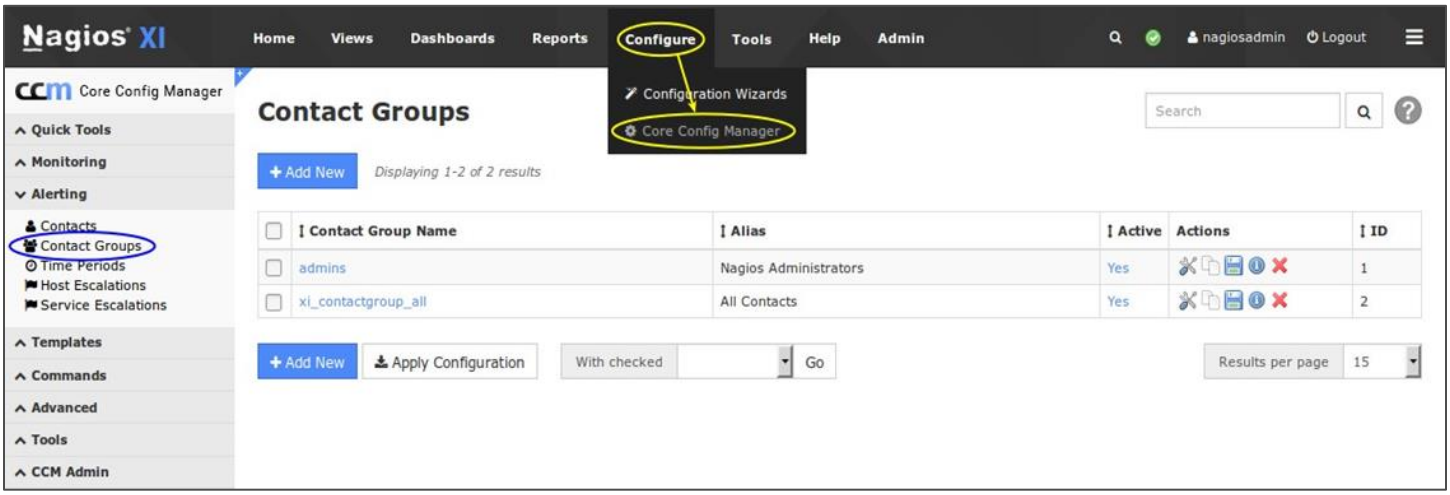


Create all the users that will be accessing Nagios XI.

Defining Contact Groups

It is considered best practice to define one or more contact groups that can be used to categorize the contacts you create. Contact groups can be used to group contacts by company/client, department, team, or other logical grouping.

Navigate to **Configure** > **Core Config Manager**. Expand **Alerting** and click **Contact Groups**.



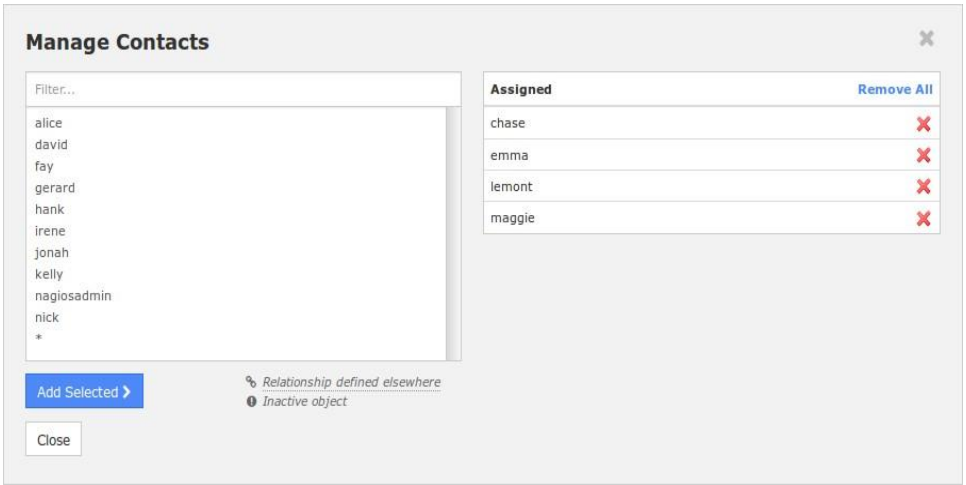
Click the **Add New** button to add a new **Contact Group**.

You will define a name and description for the group.

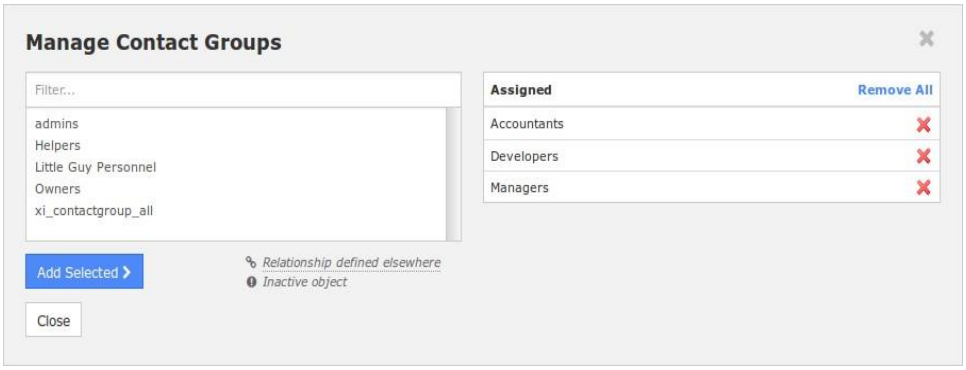
Click the **Manage Contacts** button to add users to the contact group.

Select the members that should belong to the group.

Click **Close** and then **Save** to finish creating the contact group.



Adding an entire contact group is done using the **Manage Contactgroups** button and is similar to the **Manage Contacts** button.



This allows you to add a subgroup and allows for multiple group relationships on different levels.

Remember to save your settings after you modify a contact group and **Apply Configuration** when done.

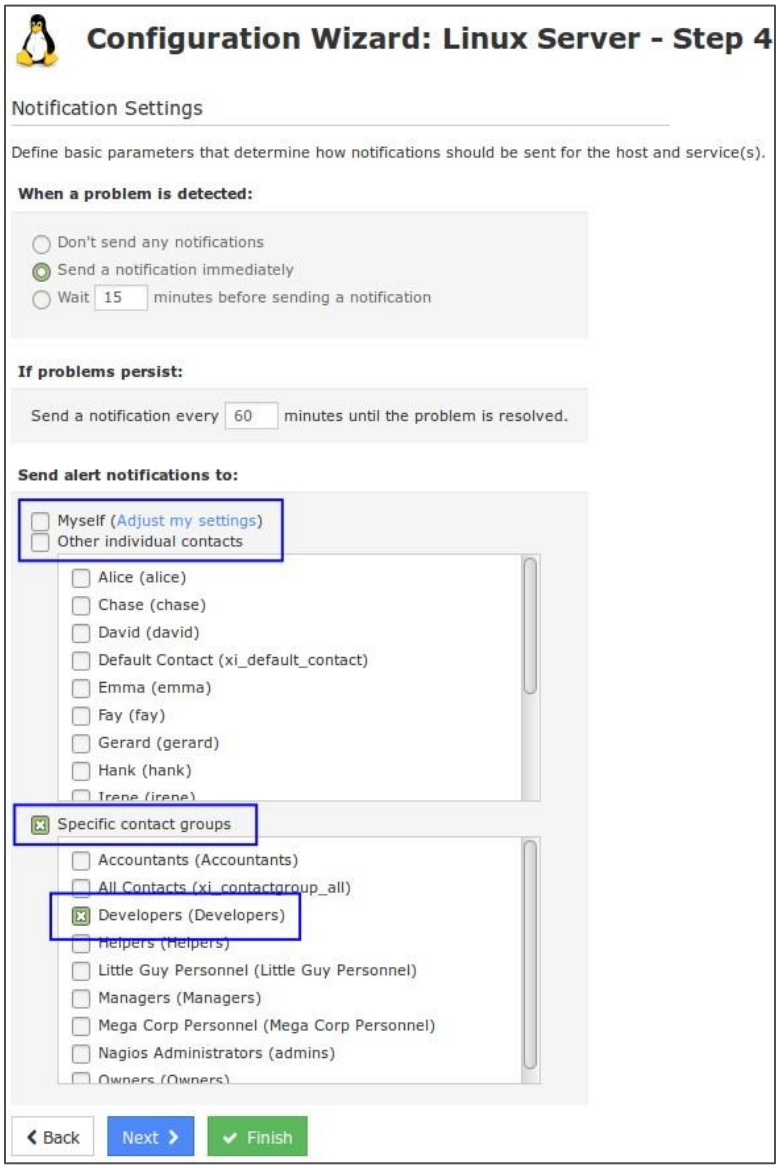
Configuring Hosts and Services

To grant users permission to see specific hosts and services, you must configure that user to be a notification contact for those hosts and services.

When configuring new hosts and services using the Monitoring Wizard, you can simply select the appropriate contact(s) and/or contact group(s) that should receive notifications for the host and services on the **Notification Settings** page (step 4).

The contacts and contact groups you select on this screen will have the ability to view the status of these hosts and services when they login to Nagios XI.

In this screenshot, when adding the Delta server we added the **Developers** contact group. This means that Chase, Emma, Lemont and Maggie will see this host and services when logged into Nagios XI.

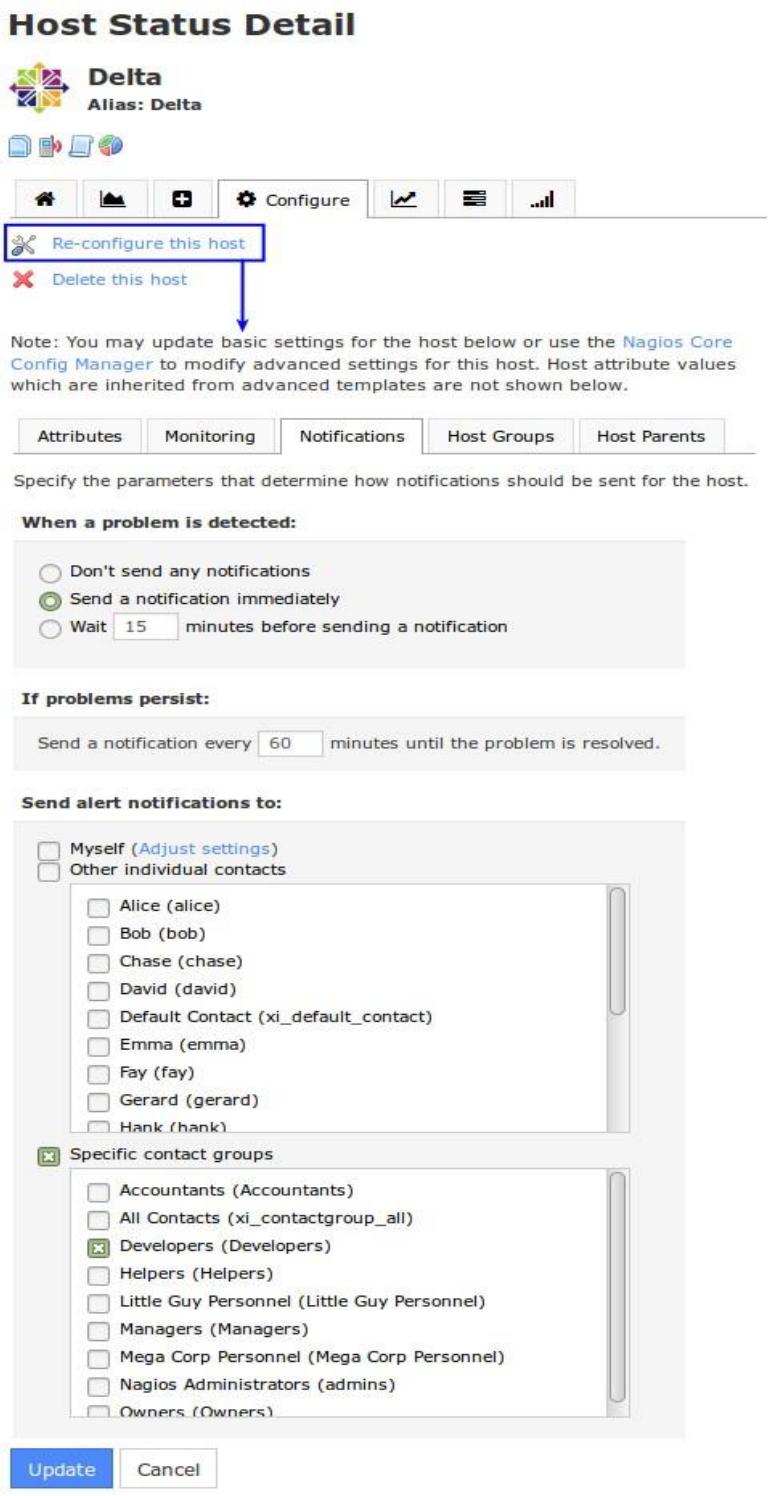


If you create your users and/or contact groups after creating hosts and services, you can easily re-configure the hosts or services to use those new contacts and/or contact groups.

This can be accomplished by selecting the **Re-configure this host/service** option under the **Configure** tab when you are viewing detailed information on a specific host or service.

When the **Configure Host** page opens, select the **Notification** tab. This will allow you to change any of the contacts and contact groups associated with this host.

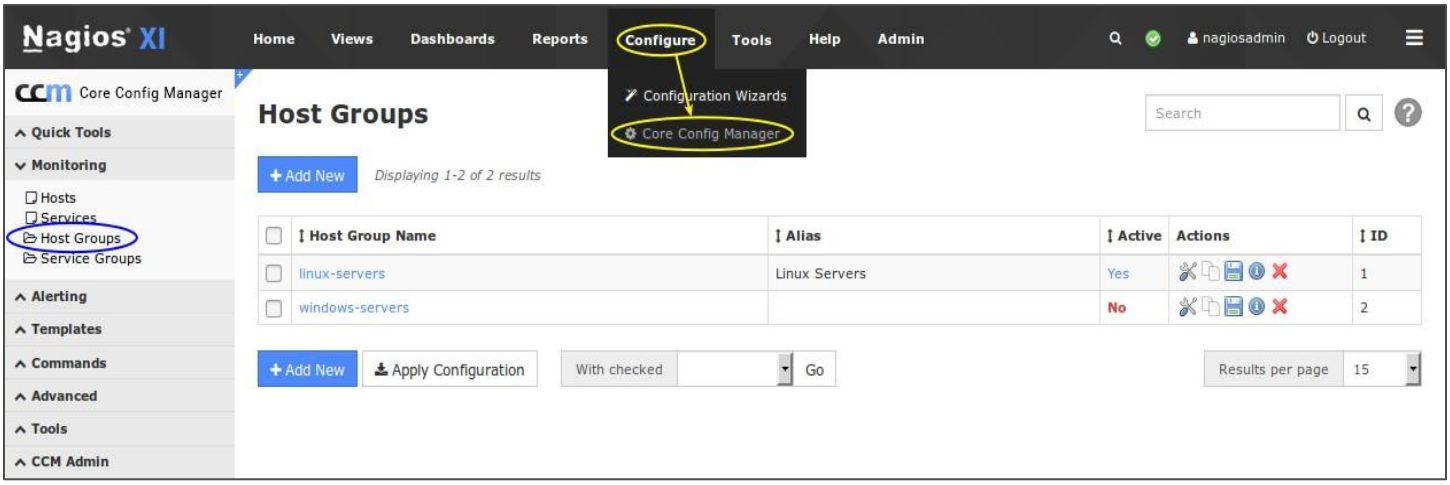
Click **Update** when done making changes.



Defining Host Groups

Host groups allow you to group hosts in a logical manner, making it easier for users to get a quick view of their network infrastructure. They will not have an impact on the notifications or access control but will make it easier for both your users to grasp what they are looking at and for you as the administrator to quickly pinpoint where problems are occurring.

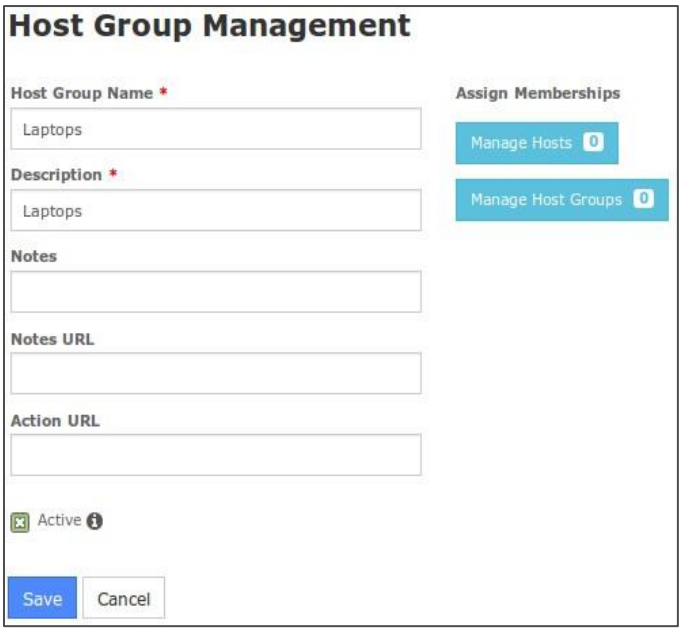
Navigate to **Configure** > **Core Config Manager**. Expand **Monitoring** and click **Host Groups**.



Click the **Add New** button to add a new **Host Group**.

You will define a name and description for the group.

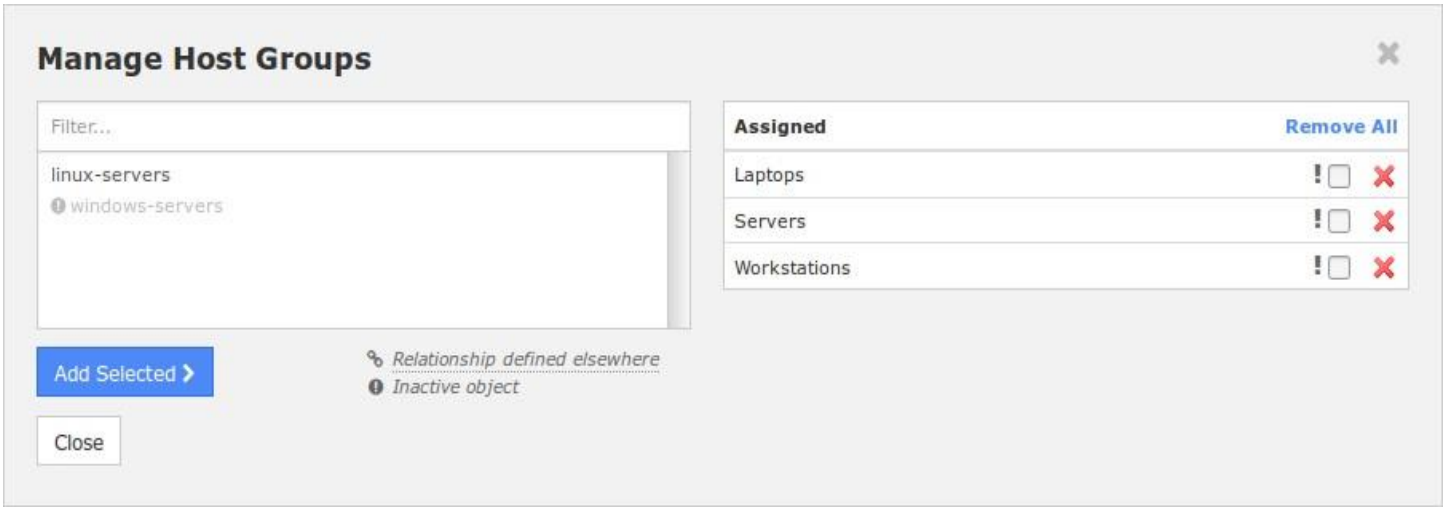
Click the **Manage Hosts** button to add hosts to the host group.



Select the members that should belong to the group.

Click **Close** and then **Save** to finish creating the host group.

Similar to contact groups, you can create host groups that have individual hosts and other host groups as their members. Host groups are added with the **Manage Host Groups** button.

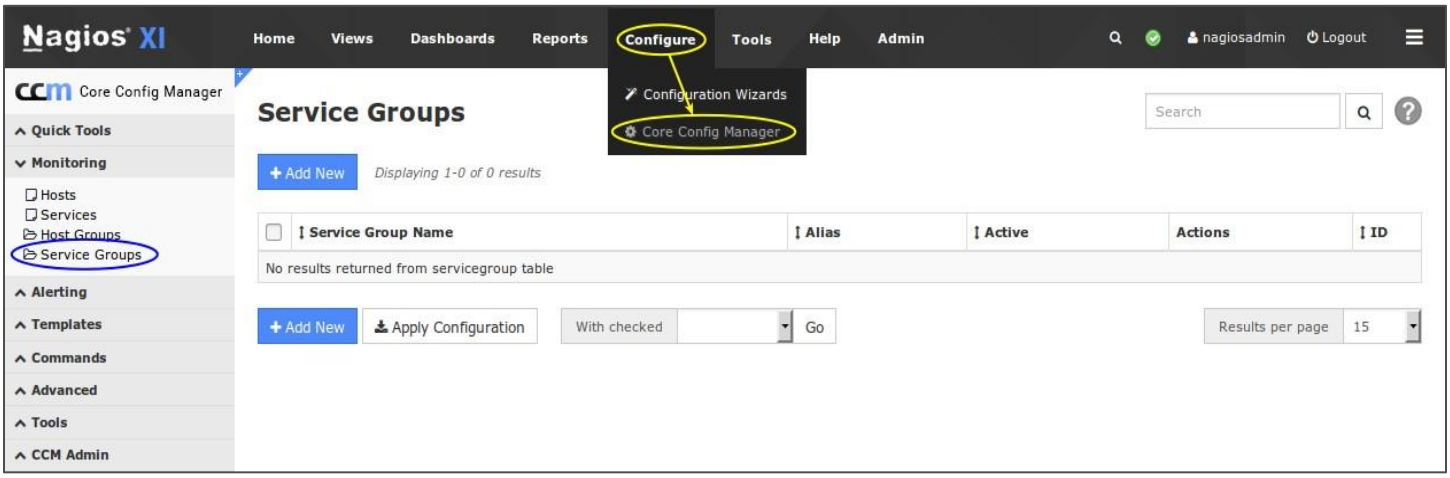


Remember to choose the **Apply Configuration** option when you are done making configuration changes.

Service Groups

Service groups work in a similar way to host groups, in that they allow you to group services together in a way that makes sense for users who need to view the status of your infrastructure. The process for creating service groups is like that of creating host groups.

Navigate to **Configure** > **Core Config Manager**. Expand **Monitoring** and click **Service Groups**.

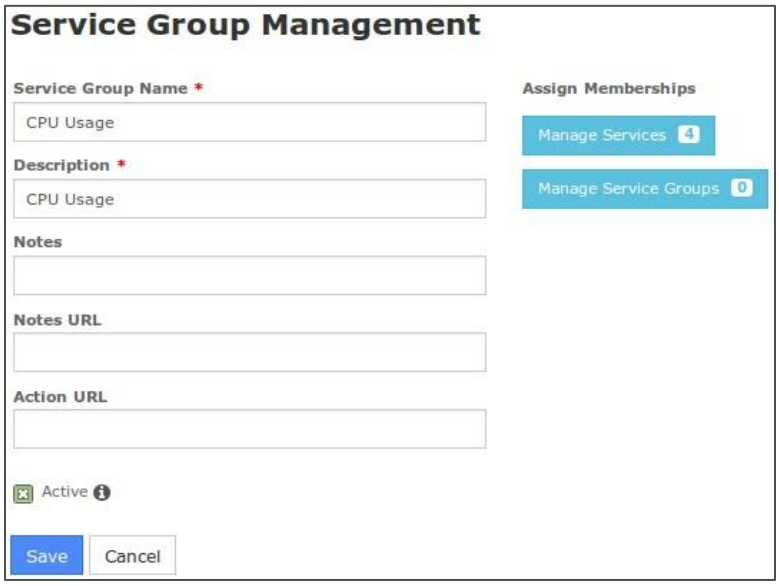


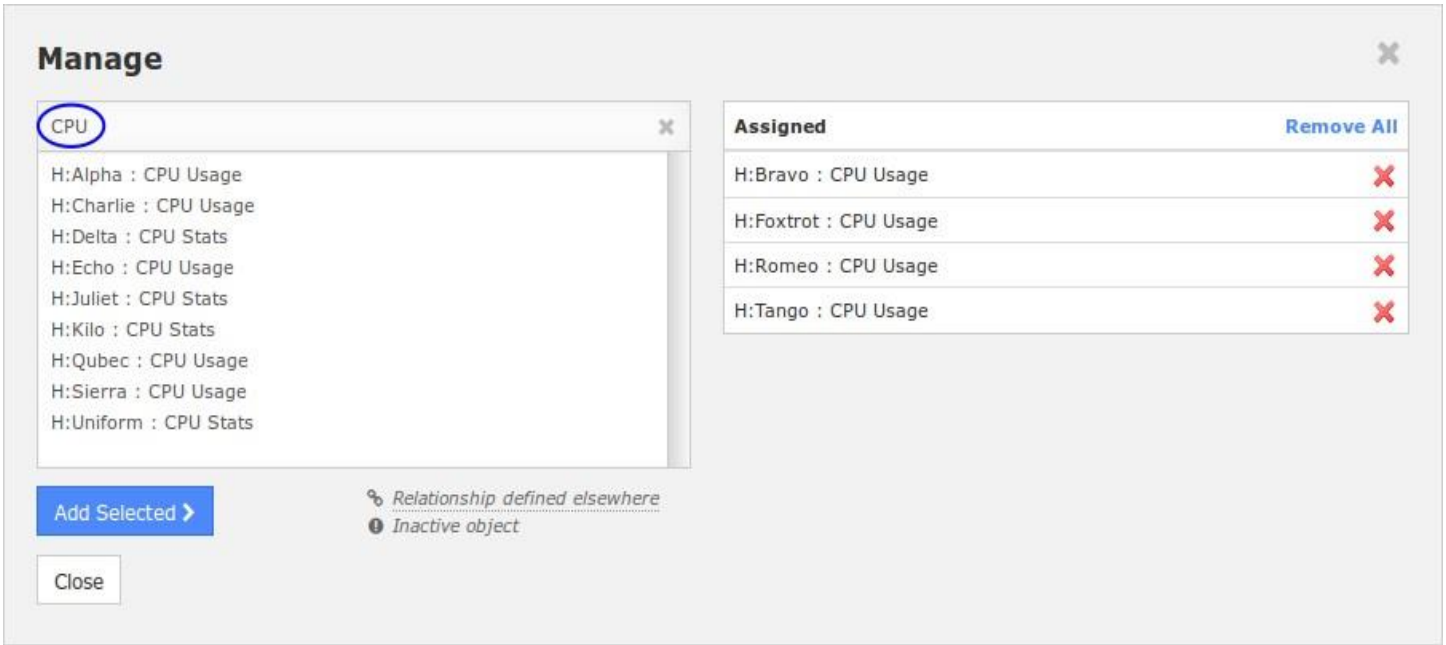
Click the **Add New** button to add a new **Service Group**.

You will define a name and description for the group.

Click the **Manage Services** button to add services to the service group.

Adding members to the service group is the same as in **Contact** and **Host Groups**. When you may have a lot of services you can filter the results in the left pane by typing in the





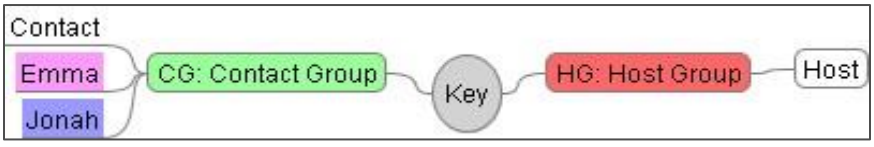
Filter field at the top of the left pane. In the screenshot below you can see that the results have been filtered by the word CPU.

Remember to save and choose the **Apply Configuration** option when you are done making configuration changes.

An Example

We configured Nagios XI with a sample setup to test and document the multi-tenancy features available. The information below describes how we set up our Nagios XI instance, and the end-result of our configuration.

The configuration diagrams follow the pattern shown in the image below. Elements of the diagram show the relationships between hosts, host groups, contacts, and contact groups.



We defined two client companies - "Little Guy" and "Mega Corp" - each of which had a single top-level contact group covering their entire company. Those top-level contact groups then had other sub-groups as their members, which were used to define roles or departments within the company. The sub-groups then had individual employees as their members. The image below represents the configuration we created.

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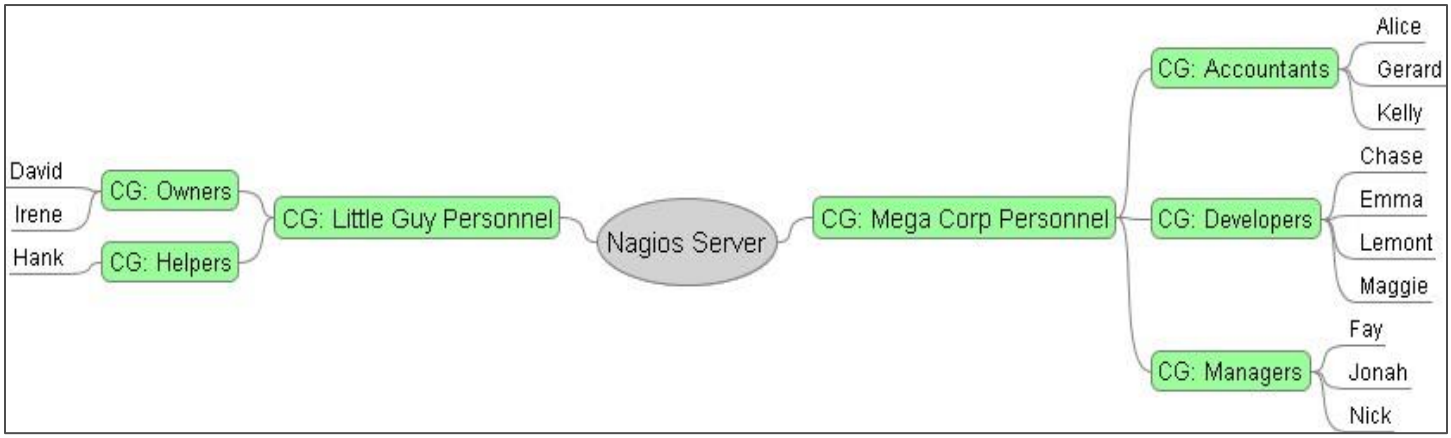
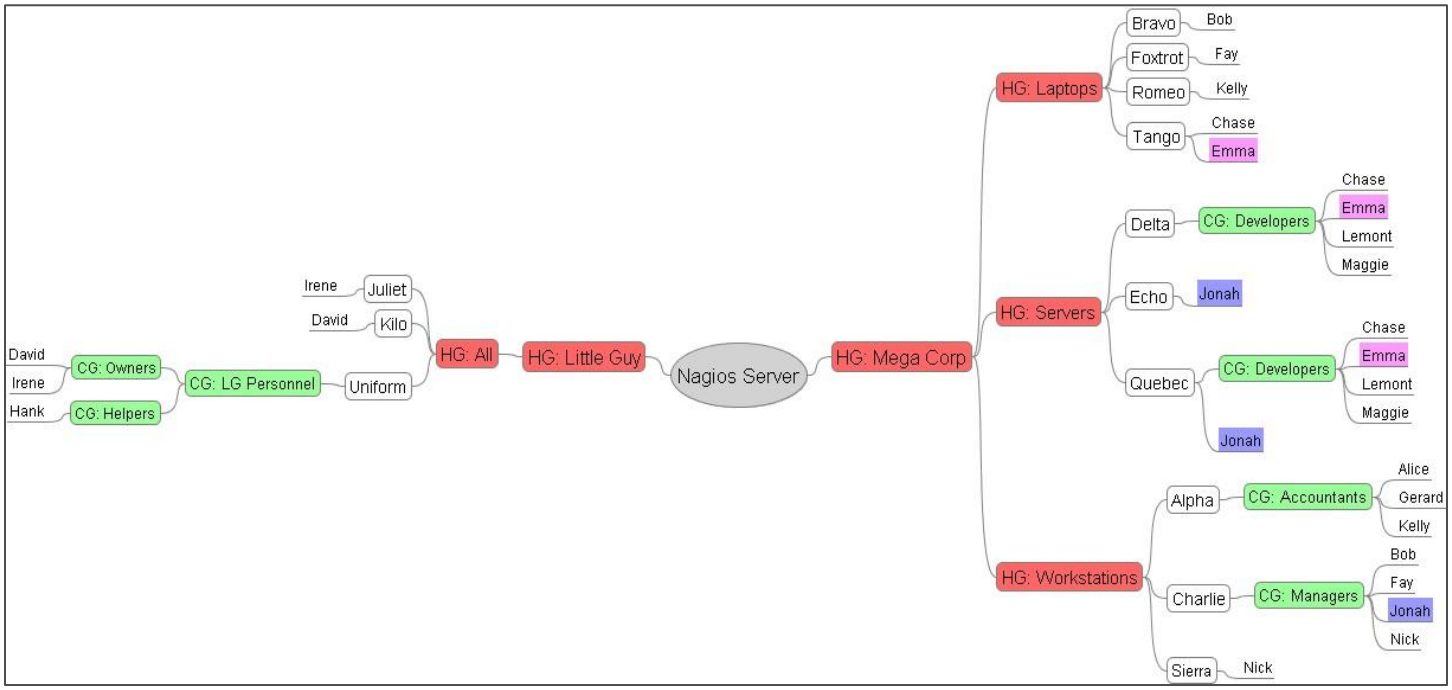
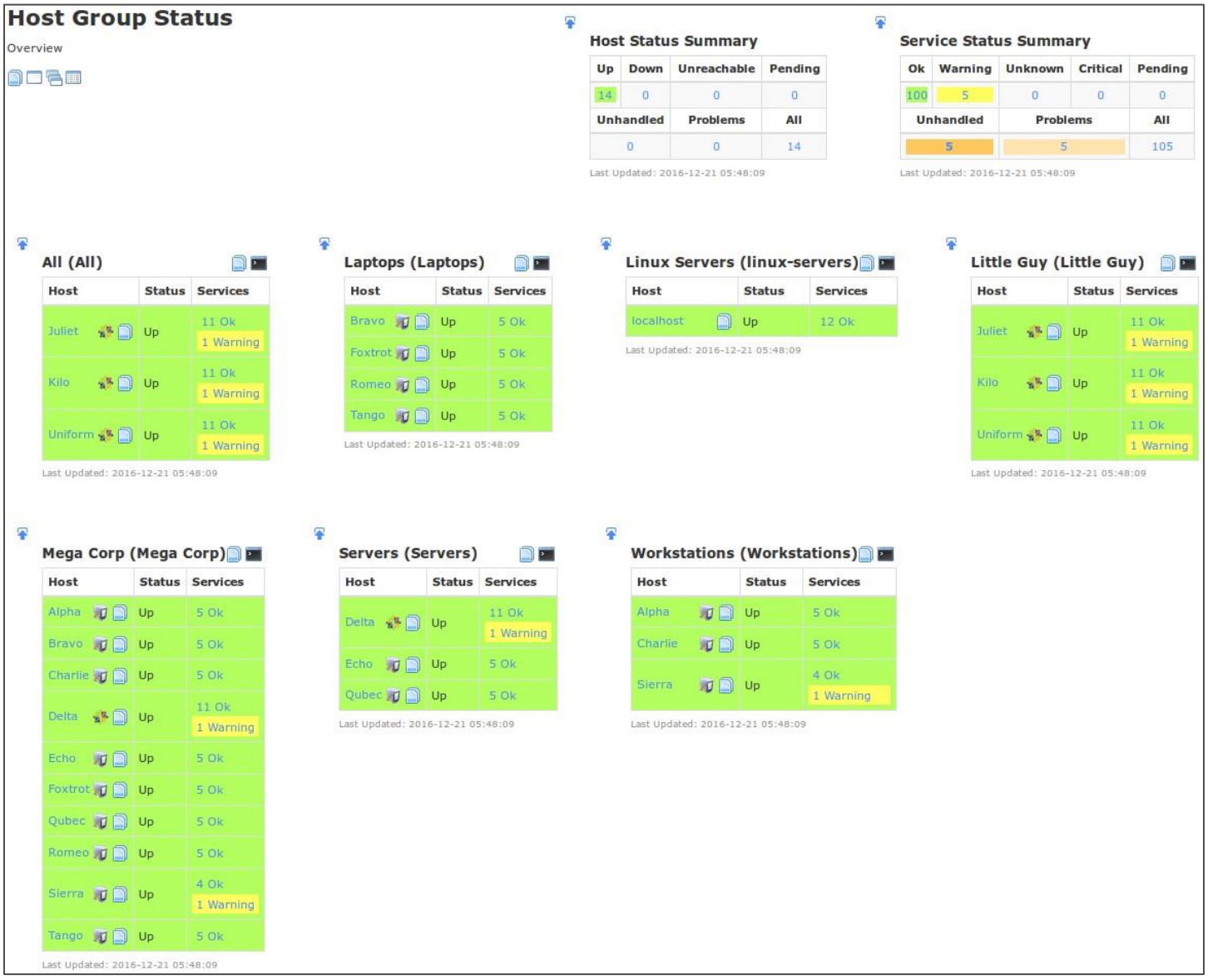


Top-level host groups were configured to contain each company's respective infrastructure elements. Sublevel host groups were defined to narrow the scope of included infrastructure elements for Mega Corp. The diagram below shows the hosts that are defined as members of various **hostgroups**, along with the the contact(s) and/or contact group(s) that were assigned to each host for notification purposes.



Administrator View

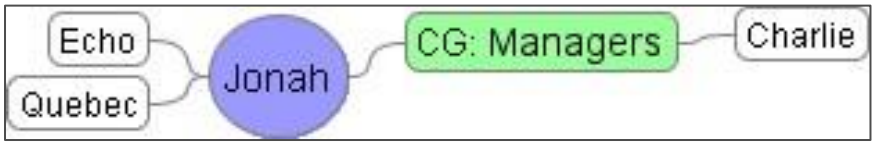
We configured Nagios XI using the **nagiosadmin** account. This account is an administrator, so it has permission to view all hosts, services, and groups that were defined. The following screenshot shows the hostgroups that were visible to the administrator under the **Hostgroup Overview** screen once we finished configuring everything.



Non-Admin View #1: Jonah

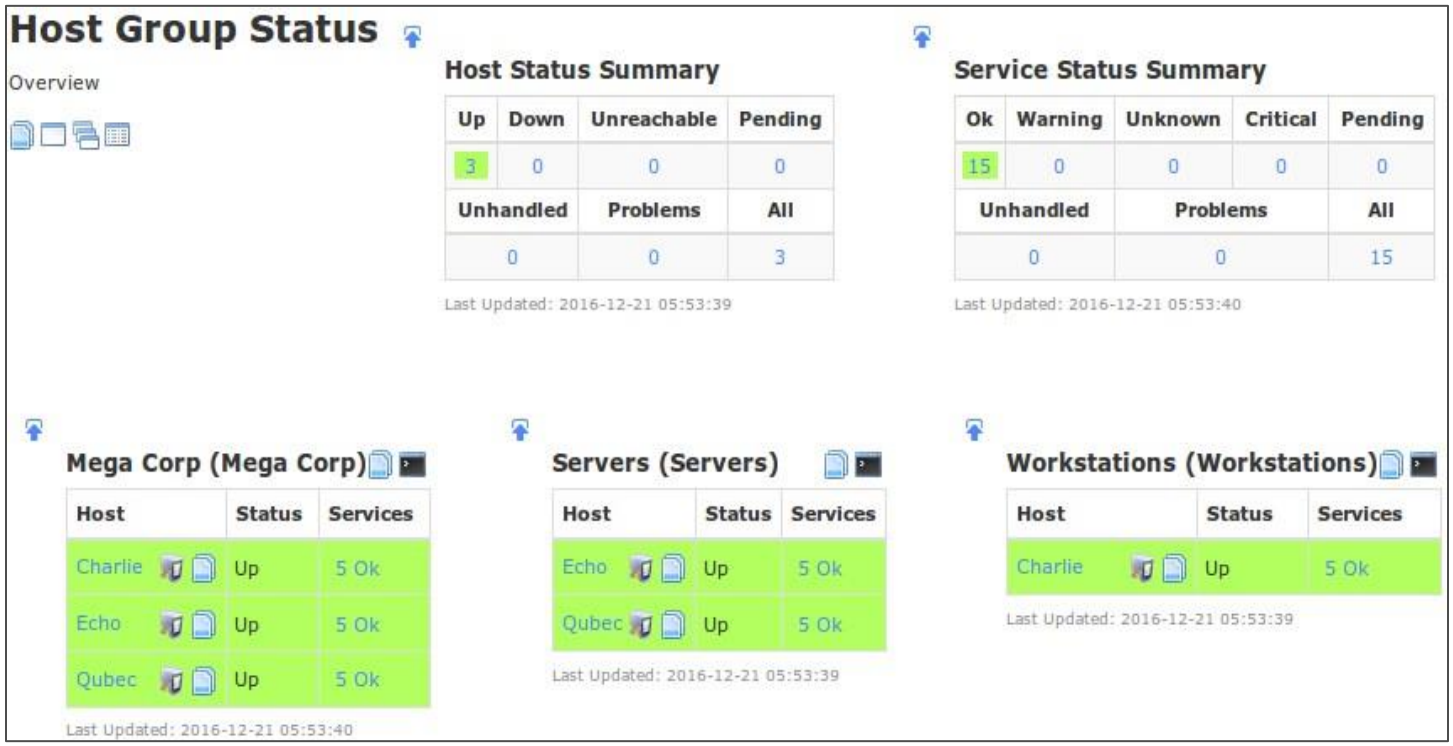
We created a Jonah user that appeared in three different places (highlighted in blue) in the diagram on the previous page. Jonah was configured as a direct notification contact for the hosts Echo and Quebec, and indirectly as a notification contact for Charlie via his membership in the Managers contact group.

These relationships are summarized in the diagram to the right:



We logged into Nagios XI as Jonah and selected the **Hostgroup Overview** screen to see what hosts and host groups Jonah could see.

The following screenshot shows that Jonah's view was limited to include only the hosts Echo, Quebec, and Charlie.

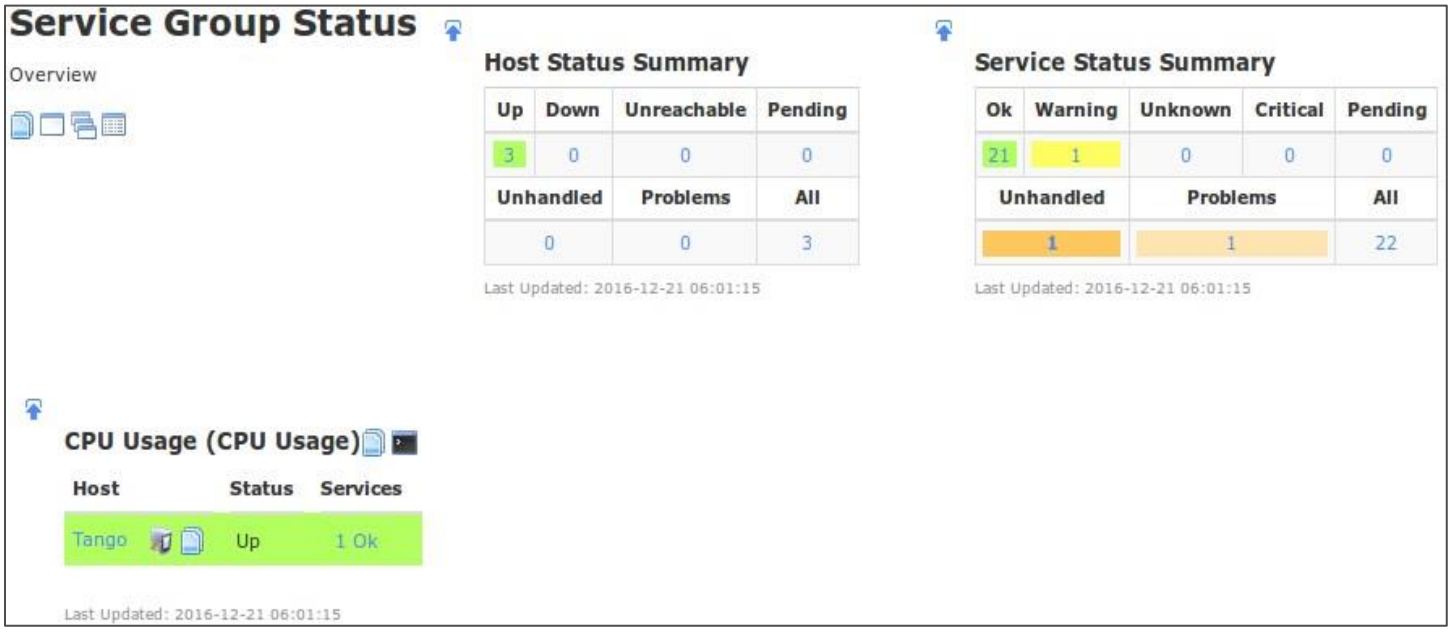


Non-Admin View #2: Emma

Another user, Emma was directly defined as the notification contact for the host Tango and indirectly for *Delta* and *Quebec* through her membership in the Developers contact group.

As seen in the following screenshot, Emma could only see the Delta, Tango and Quebec servers.

Another example is the service group that was created which included CPU Usage services from multiple servers. When Emma is logged in and navigates to the **Servicegroup Overview** page she only sees the services she has access to, as per this screenshot.



Finishing Up

This completes the documentation on how to configure Nagios XI to support multi-tenancy to allow multiple users or clients to share access to a single Nagios XI instance. 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