

Cyber security

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Date: 19 March 2021

Objectives:

1. What is Nagios?
2. Why we need Nagios?
3. Disadvantages of using Nagios?
4. All products of Nagios?
5. How we use and understand Nagios XI that monitors systems, networks and critical IT Infrastructure?
6. How we use and understand Nagios Log Server?

What is Nagios?

Any organization can contain a complex system of computers, servers, services, applications and more. A large amount of data are floating around in the cloud. It requires an interpreter, a guide, a watch-guard, in order to make sense of it and help promote efficiency and network security. Monitoring and managing infrastructure's data has all been streamlined through one suite of solutions. So, it's called "**The industry standard in IT infrastructure monitoring**".

Nagios is a powerful monitoring system that enables organizations to identify and resolve IT infrastructure problems before they affect critical business processes.

Nagios Core, formerly known as **Nagios**, is a free and open-source computer-software application that monitors systems, networks and infrastructure.

Nagios offers monitoring and alerting services for servers, switches, applications and services. It alerts users when things go wrong and alerts them a second time when the problem has been resolved.

Why We Need Nagios?

Here, are Important reasons to use Nagios monitoring tool are:

- Detects all types of network or server issues.
- Helps us to find the root cause of the problem which allows us to get the permanent solution to the problem.
- Active monitoring of our entire infrastructure and business processes.
- Allows us to monitors and troubleshoot server performance issues.

- Helps us to plan for infrastructure upgrades before outdated systems create failures.
- We can maintain the security and availability of the service.
- Automatically fix problems in a panic situation.

Disadvantages of Using Nagios

- Important feature like wizards or interactive dashboard are only available on Nagios XI, which is quite an expensive tool.
- Nagios core has a confusing interface.
- There're many configuration files which are very hard to configure for users.
- Nagios can't monitor network throughput.
- The tool not allows us to manage the network but only allows to monitor the network.
- Nagios makes no difference between various devices like servers, routers, or switches as it treats every device as a host.

All products of Nagios?

1. Nagios XI
2. Nagios Log Server
3. Nagios Network Analyzer
4. Nagios Fusion
5. Nagios Core

Nagios XI

we will be able to see exactly where the problem comes from on our infrastructure, and handle it quickly and efficiently, saving the time and money for our organization before it affects critical business processes.

Nagios Log Server

The powerful enterprise-grade log monitoring and management application that allows us to quickly and easily view, sort and configure logs from any source on any given network, allowing us to start making sense of our data.

Nagios Network Analyzer

The commercial-grade network flow data analysis solution that provides us with network traffic and bandwidth information of our infrastructure, making it easier for us to see where the bandwidth is dipping or spiking.

Nagios Fusion

Provides a centralized visual operational status, and enables faster problem resolution over our entire IT infrastructure. Now we can determine which service is down, what is taking up the bandwidth, where is the data is coming from, and how to resolve it. Servers, applications, routers, switches, and more, all able to monitored and manage with Nagios, making us the master of our data.

Nagios Core

The open source industry standard in IT infrastructure monitoring and alerting.

Recommended Software: Nagios XI

<http://nagiosxi.demos.nagios.com/nagiosxi/login.php>

How we use and understand Nagios XI that monitors systems, networks and critical IT Infrastructure?

Configure, monitoring setup

Add or modify items to be monitored.

The screenshot shows the Nagios XI web interface. The top navigation bar includes links for Home, Views, Dashboards, Reports, Configure, Tools, Help, and Admin. A notice at the top states: "Notice: This trial copy of Nagios XI will expire in 28 days. Purchase a License Now or Enter your license key." The left sidebar contains a menu with sections: Configure (with sub-items: Configuration Options, Configuration Tools, Auto Deployment, Advanced Configuration, and More Options), and More Options (with sub-items: My Account Settings, System Configuration, User Management, Unconfigured Objects, and Deadpool Settings). The main content area is titled "Configuration Options" and includes a sub-header: "Choose what how you would like to configure Nagios XI. To get started right away, try using a configuration wizard under the 'Start Monitoring Now' section." Below this, there are four large cards: 1. "Deploy Monitoring Agents and Configure" with a description "Quickly deploy NCPA (our monitoring agent) on a Linux system and configure what you'd like to monitor." and a link "Run Auto Deployment >". 2. "Start Monitoring Now" with a description "Quickly monitor a new device, server, application, or service using an easy configuration wizard." and a link "Run a configuration wizard >". 3. "Auto-Discovery" with a description "Run an auto-discovery job to automatically find hardware, devices, and services to monitor." and a link "Use the auto-discovery tool >". 4. "Advanced Configuration" with a description "Manage your monitoring config files using an advanced web interface. Recommended for experienced users." and a link "Go to Nagios Core Config Manager >". 5. "Manage Account Settings" with a description "Modify your account information, preferences, and notification settings." and a link "Edit your profile settings >". The footer of the page shows "Nagios XI 5.7.5" and a "Check for Updates" link, along with "About", "Legal", and "Copyright © 2008-2021 Nagios Enterprises, LLC".

Configuration Wizards,

Nagios XI Home Views Dashboards Reports Alerts Help Admin

Download trial copy of Nagios XI or simply go to 24 hours Purchase a License Now or Enter your license key.

Configuration Wizard - Select a Wizard

After choosing your infrastructure to monitor, a configuration wizard guide you through the process of setting up your devices, servers, applications, services, and more in Nagios XI. Select the appropriate wizard below to get started:

Active Directory Monitor an Active Directory server via LDAP connection.	Amazon EC2 Monitor an Amazon EC2 instance.
Amazon S3 Monitor an Amazon S3 bucket.	Apache Tomcat Monitor Apache Tomcat JMXs through JMX (uses NRPE or requires Java).
Auto-Discovery Monitor servers, devices, and services found by auto-discovery jobs.	BPM Wizard Create service checks for your Nagios BPM groups.
Build Host Cloning and Import Clone existing hosts quickly and easily. Supports import from auto-discovery jobs and CSV files.	Capacity Planning Alert based on metrics produced by the Capacity Planning report.
DHCP Server Monitor DHCP servers.	DNS Query Monitor a host or domain lookup/query via DNS.
DigitalOcean Monitor a DigitalOcean droplet using the Nagios CloudPlatform Agent.	Docker Monitor Docker containers via NRPE or through the cURL API.
Domain Expiration Monitor a domain expiration.	Email Delivery Test email server reception and simulated users inspection of email messages.
Sensors WebSensor Monitor temperature, humidity, and light levels on a Sensors WebSensor.	Exchange Server Monitor a Microsoft Exchange server.
FTP Server Monitor login and file transfer capabilities of an FTP server.	Folder Watch Monitor directories or files with a Perl driven regex that can query count, size or md5.
Gigamon Network Device Monitor a generic IP network device.	Glassfish Monitor GlassFish JVMs through JMX (uses NRPE or requires Java).
Google Cloud Monitor Google Cloud VMs (Windows, CentOS, Debian/Ubuntu, or RHEL) using NRPE.	Hyper-V Monitor your Hyper-V server via NRPE.
Hadoop/Wildfly Monitor Hadoop/Wildfly JVMs through JMX (uses NRPE or requires Java).	JCRN Monitor real-time data output from a URL or API.
Jetty Monitor Jetty JVMs through JMX (uses NRPE or requires Java).	LDAP Server Monitor an LDAP server.
Linode Monitor a Linode (CentOS, Debian, Fedora, openSUSE, or Ubuntu) using the Nagios Cross-Platform Agent.	Linux SNMP Monitor a Linux workstation or server using SNMP.
Linux Server Monitor a remote Linux server.	MongoDB Database Monitor a MongoDB database.
Mysql Query Monitor a MySQL database query.	Mysql Server Monitor a MySQL server.
Mac OS X Monitor a Mac OS X machine.	Mail Server Monitor an email server.
Microsoft Azure Cloud Monitor a Microsoft Azure Cloud VM (Windows, RHEL, CentOS, or Ubuntu) using NRPE.	MongoDB Database Monitor a MongoDB database.
MongoDB Server Monitor a MongoDB server.	Mountpoint Monitor a NFS, CIFS or DAIPS mountpoint.
MySQL Query Monitor a MySQL database query.	MySQL Server Monitor a MySQL server.
NRPE Monitor a host (Windows, Linux, OS X, Solaris, or AIX) using the Nagios Cross-Platform Agent.	NRPE Monitor a remote Linux/Unix server using NRPE.
NSClient++ Monitor Windows using the legacy monitoring agent. (Deprecated)	Nagios Log Server Monitor a Nagios log server query.
Nagios Network Analyzer Monitor a switch, vlan, or interface on a Nagios Network Analyzer server.	Nagios XI Server Monitor a remote Nagios XI server.
Nagiosstats Wizard Monitor internal performance of your XI server.	Network Switch / Router Monitor a network switch or router.
Oracle Query Monitor a Oracle Query.	Oracle ServerSpace Monitor an Oracle Server.
Oracle Tablespace Monitor an Oracle Tablespace.	Plextron Check E Monitor passive service checks and events such as security alerts.
Postgres Database Monitor a Postgres database.	Postgres Query Monitor a postgres database query.
Postgres Server Monitor a Postgres server.	Printer Monitor an IPP/JetDirect compatible network printer.
RADIUS Server Monitor a RADIUS server.	Rackspace Cloud Monitor a Rackspace Cloud Server (Windows Server, CentOS, Debian, Fedora, or Ubuntu) using the Nagios Cross-Platform Agent.
SLA Monitor host and service Service Level Agreements (SLA) to ensure they are met.	SNMP Monitor a device, service, or application using SNMP.
SNMP Trap Monitor SNMP Traps.	SNMP Walk Scan an SNMP-enabled device for elements to monitor.
SSL Proxy Monitor a remote Linux, Unix, or Mac OS/X machine using ssls.	Solaris Monitor a Solaris server.
TCP/UDP Port Monitor common and custom TCP/UDP ports.	TFTP Monitor a TFTP Server Connection on Specific File.
VMware Monitor a VMware host or guest VM.	WatchGuard Monitor a WatchGuard device.
Web Transaction Monitor a synthetic web transaction.	WebLogic Monitor a WebLogic instance via JMX.
Website Monitor a website.	Website Status Content Monitor a website for defacement.
Website URL Monitor a specific web url.	Windows Desktop Monitor a nonworking Windows Vista, XP, ME, NT, and XP desktops.
Windows Event Log Monitor Windows event logs via NRPE.	Windows SNMP Monitor a Microsoft Windows workstation or server using SNMP.
Windows Server Monitor a Microsoft Windows 2000, 2012, 2016, or 2019 server.	Windows WMI Monitor a Microsoft Windows workstation or server using WMI.
XPL Monitor XML data output from a URL or API.	

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Configuration Wizards Step 2,

Nagios XI

HomeViewsDashboardsReportsConfigureToolsHelpAdmin

Configuration Options

Configuration Tools

Configuration Wizards

Auto-Discovery

Manage Templates

Auto Deployment

Deploy Agent

Manage Deployed Agents

Deployment Settings

Advanced Configuration

Core Config Manager

More Options

My Account Settings

System Configuration

User Management

Unconfigured Objects

Deadpool Settings

Configuration Wizard: Windows SNMP - Step 2

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★

Windows Machine Details

IP Address:

27.147.194.136

Host Name:

27.147.194.136

The name you'd like to have associated with this Windows machine.

The wizard detected that this server does not have snmpwalk permission on the target host. This will prevent the automatic scan of services and processes and prevent services from running successfully, but you can continue with the wizard manually. To troubleshoot this ensure that these OIDs are available on the target host: "HOST-RESOURCES-MIB::hrStorageDescr", "SNMPv2-SMI::enterprises.77.1.2.3.1.1" and "HOST-RESOURCES-MIB::hrSWRunName"

Server Metrics

Specify which services you'd like to monitor for the Windows machine.

☒ Ping

Monitors the machine with an ICMP "ping". Useful for watching network latency and general uptime.

☒ CPU

Monitors the CPU (processor usage) on the machine.

⚠

80

%

!

90

%

☒ Physical Memory Usage

Monitors the physical (real) memory usage on the machine.

⚠

80

%

!

90

%

☒ Virtual Memory Usage

Monitors the virtual memory usage on the machine.

⚠

5

%

!

10

%

☒ Disk Usage

Monitors disk usage on the machine. [Add Row](#) | [Delete Row](#)

Services

Specify any services that should be monitored to ensure they're in a running state.

Note: The Windows Service name must match the full name of the service you want to monitor.

Windows Service

Display Name

☐ World Wide Web Publishing

IIS Web Server

☐ Task Scheduler

Task Scheduler

☐ Terminal Services

Terminal Services

☐

[Add Row](#) | [Delete Row](#)

Processes

Specify any processes that should be monitored to ensure they're running.

Note: Process names are case-sensitive.

Windows Process

Display Name

☐ explorer.exe

Explorer

☐

☐

☐

[Add Row](#) | [Delete Row](#)

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Next >

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• [Check for Updates](#)

?

About

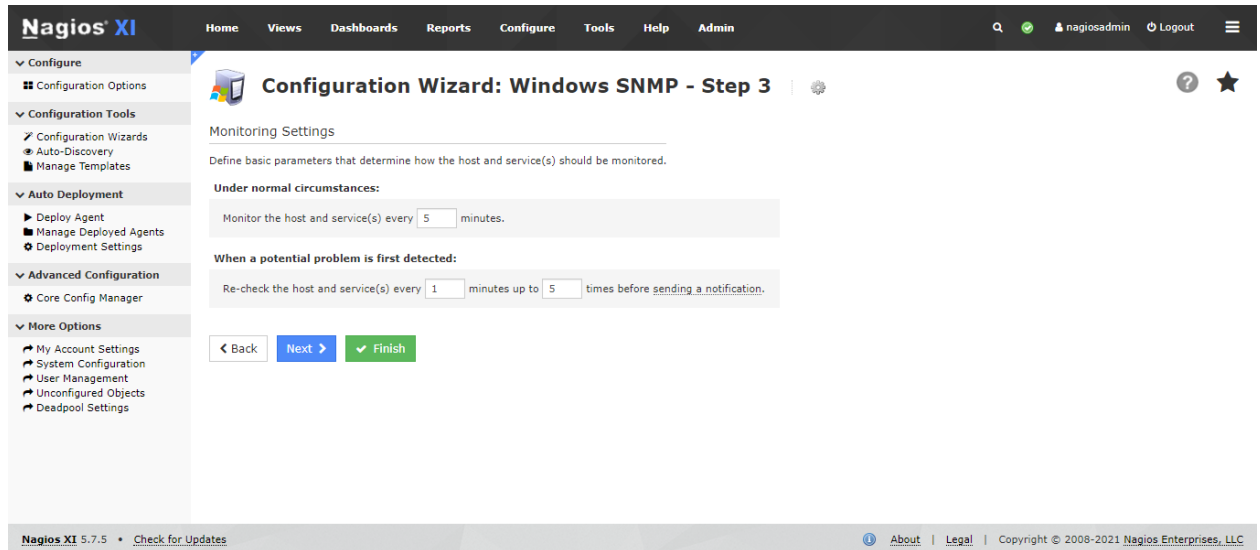
|

Legal

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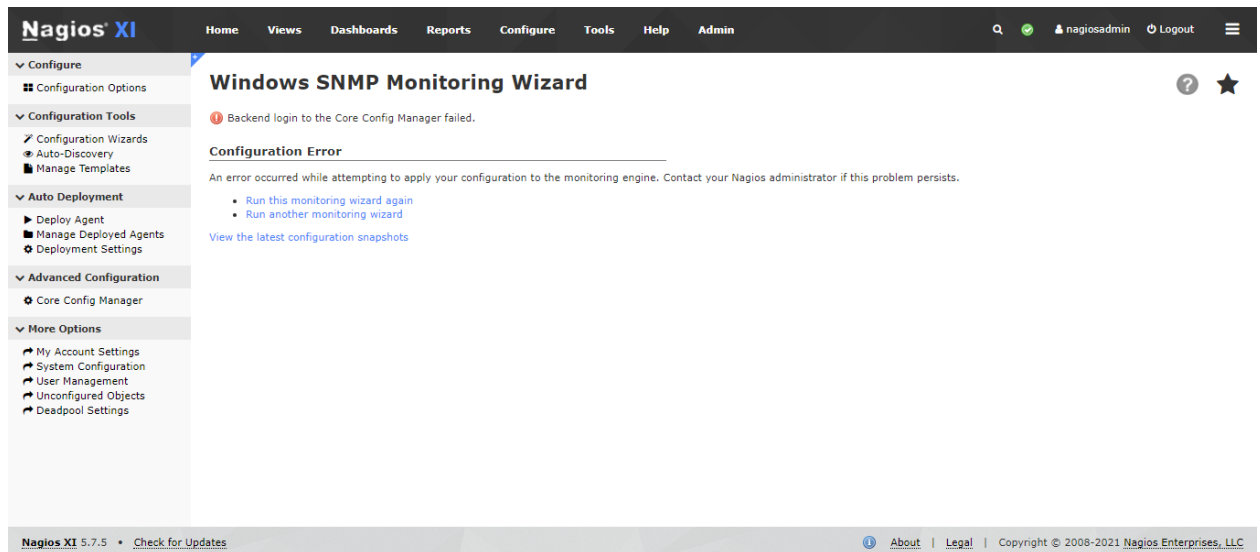
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Configuration Wizards Step 3,



The screenshot shows the Nagios XI interface for the 'Configuration Wizard: Windows SNMP - Step 3'. The left sidebar contains a navigation menu with sections: 'Configure' (with sub-items 'Configuration Options' and 'Configuration Tools'), 'Auto Deployment' (with sub-items 'Deploy Agent', 'Manage Deployed Agents', and 'Deployment Settings'), 'Advanced Configuration' (with sub-item 'Core Config Manager'), and 'More Options' (with sub-items 'My Account Settings', 'System Configuration', 'User Management', 'Unconfigured Objects', and 'Deadpool Settings'). The main content area is titled 'Configuration Wizard: Windows SNMP - Step 3' and includes a 'Monitoring Settings' section. Below this, it says 'Define basic parameters that determine how the host and service(s) should be monitored.' There are two configuration blocks: 'Under normal circumstances:' with a text input 'Monitor the host and service(s) every 5 minutes.' and 'When a potential problem is first detected:' with a text input 'Re-check the host and service(s) every 1 minutes up to 5 times before sending a notification.' At the bottom of the main area are three buttons: '< Back', 'Next >', and '✓ Finish'. The footer of the interface shows 'Nagios XI 5.7.5' and a 'Check for Updates' link, along with links for 'About', 'Legal', and 'Copyright © 2008-2021 Nagios Enterprises, LLC'.

Configuration Wizards Step 4,



The screenshot shows the Nagios XI interface for the 'Windows SNMP Monitoring Wizard'. The left sidebar is identical to the previous screenshot. The main content area is titled 'Windows SNMP Monitoring Wizard' and displays an error message: 'Backend login to the Core Config Manager failed.' Below this is a 'Configuration Error' section with the text 'An error occurred while attempting to apply your configuration to the monitoring engine. Contact your Nagios administrator if this problem persists.' There are two links provided: 'Run this monitoring wizard again' and 'Run another monitoring wizard', followed by a link to 'View the latest configuration snapshots'. The footer of the interface shows 'Nagios XI 5.7.5' and a 'Check for Updates' link, along with links for 'About', 'Legal', and 'Copyright © 2008-2021 Nagios Enterprises, LLC'.

Web site monitor,

Nagios XI
Home Views Dashboards Reports Configure Tools Help Admin

- [Configure](#)
- [Configuration Options](#)
- [Configuration Tools](#)
- [Auto Deployment](#)
- [Advanced Configuration](#)
- [More Options](#)

Configuration Wizard: Website - Step 2

[?](#)
[★](#)

Website Details

Website URL:

Host Name:
The name you'd like to have associated with this website.

IP Address:
The IP address associated with the website fully qualified domain name (FQDN).

Website Options

Use SSL: ☐ Monitor the website using SSL/HTTPS.

Port:
The port to use when contacting the website.

On Redirect:
How to handle redirected pages. sticky is like follow but will stick to the specified IP address. stickyport ensures the port stays the same.

Credentials:
Basic authentication only. The username and password to use to authenticate to the website (optional)

Website Services

Specify which services you'd like to monitor for the website.

☒ **HTTP**
Includes basic monitoring of the website to ensure the web server responds with a valid HTTP response.

☒ **Ping**
Monitors the website server with an ICMP ping. Useful for watching network latency and general uptime of your web server. Not all web servers support this.

☒ **DNS Resolution**
Monitors the website DNS name to ensure it resolves to a valid IP address.

☒ **DNS IP Match**
Monitors the website DNS name to ensure it resolves to the current known IP address. Helps ensure your DNS doesn't change unexpectedly, which may mean a security breach has occurred.

☐ **Web Page Content**
Monitors the website to ensure the specified string is found in the content of the web page. A content mismatch may indicate that your website has experienced a security breach or is not functioning correctly.

Content String To Expect:

☐ **Web Page Regular Expression Match**
Monitors the website to ensure the specified regular expression is found in the content of the web page. A content mismatch may indicate that your website has experienced a security breach or is not functioning correctly.

Regular Expression To Expect:

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Next >

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Web site monitor, Step 2,

Configure

Configuration Options

Configuration Tools

Configuration Wizards

Auto-Discovery

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Deadpool Settings

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Views

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Configuration Wizard: Website - Step 3

Monitoring Settings

Monitoring Settings

Define basic parameters that determine how the host and service(s) should be monitored.

Under normal circumstances:

Monitor the host and service(s) every 5 minutes.

When a potential problem is first detected:

Re-check the host and service(s) every 1 minutes up to 5 times before sending a notification.

Back

Next

Finish

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Web site monitor, Step 3,

Nagios XI

HomeViewsDashboardsReportsConfigureToolsHelpAdmin

Configuration Wizard: Website - Step 4

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★

Configuration Wizard: Website - Step 4

Notification Settings

Define basic parameters that determine how notifications should be sent for the host and service(s).

When a problem is detected:

☒ Don't send any notifications

☐ Send a notification immediately

☐ Wait minutes before sending a notification

If problems persist:

Send a notification every minutes until the problem is resolved.

Send alert notifications to:

☒ Myself (Adjust my settings)

☒ Other individual contacts

☒ Specific contact groups

☐ All Contacts (xi_contactgroup_all)

☐ Nagios Administrators (admins)

< Back

Next >

✓ Finish





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Web site monitor, Step 4,

Nagios XI

[Home](#) [Views](#) [Dashboards](#) [Reports](#) [Configure](#) [Tools](#) [Help](#) [Admin](#)

Q   nagiosadmin  Logout 

▼ Configure

⚙️ Configuration Options

▼ Configuration Tools

🔧 Configuration Wizards

🔍 Auto-Discovery

📁 Manage Templates

▼ Auto Deployment

▶ Deploy Agent

📁 Manage Deployed Agents

⚙️ Deployment Settings

▼ Advanced Configuration

⚙️ Core Config Manager

▼ More Options




👤 My Account Settings

⚙️ System Configuration

👤 User Management

🔍 Unconfigured Objects

👤 Deadpool Settings

 **Configuration Wizard: Website - Step 5**  

Host Groups

Define which hostgroup(s) the monitored host should belong to (if any).

☐ Linux Servers (linux-servers)

Service Groups

Define which servicegroup(s) the monitored service(s) should belong to (if any).

Parent Host

Define which host(s) are considered the parents of the the monitored host (if any).
Note: Typically only one (1) host is specified as a parent.

☐ 27.147.194.136 (27.147.194.136)


☐ localhost (127.0.0.1)

◀ Back

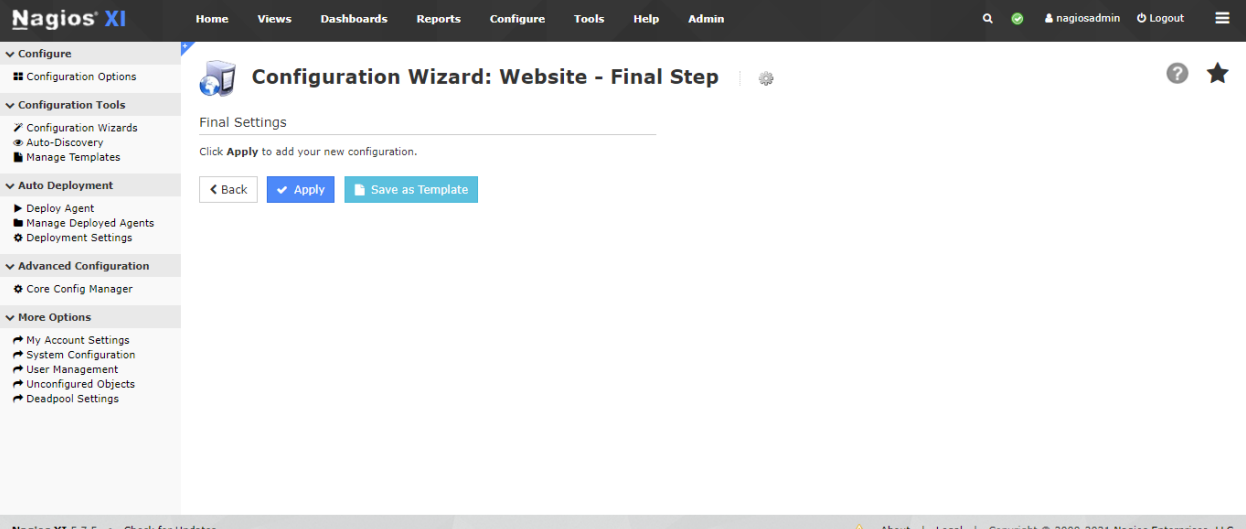
Next ▶

✓ Finish

Nagios XI 5.7.5 • [Check for Updates](#)

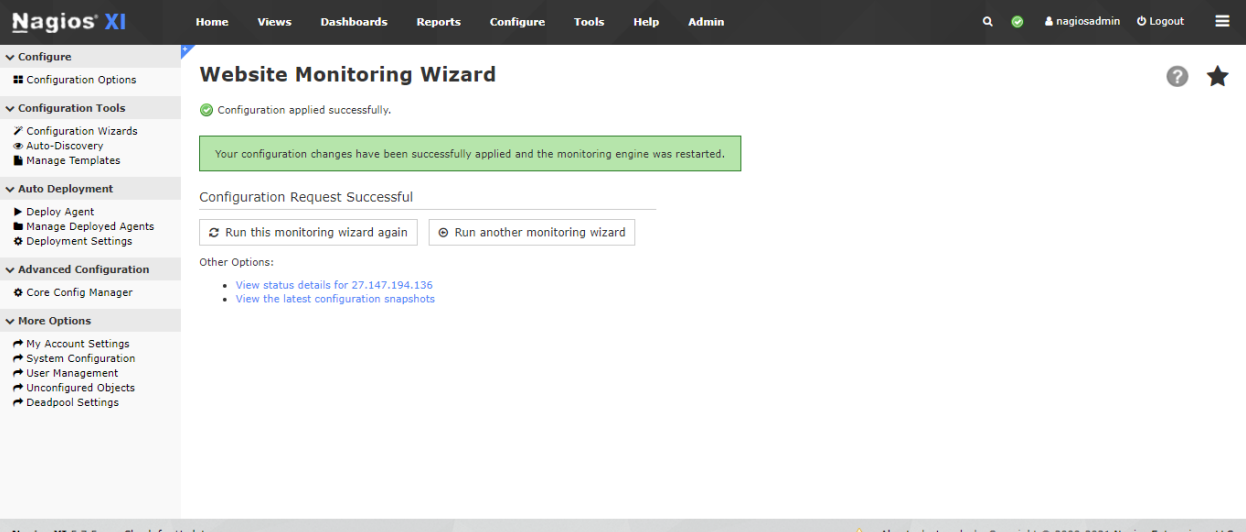
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Web site monitor, Step 5,



The screenshot shows the Nagios XI interface at the 'Configuration Wizard: Website - Final Step'. The left sidebar contains a navigation menu with categories like Configure, Configuration Tools, Auto Deployment, Advanced Configuration, and More Options. The main content area is titled 'Final Settings' and includes the instruction 'Click **Apply** to add your new configuration.' Below this, there are three buttons: 'Back', 'Apply' (highlighted with a checkmark), and 'Save as Template'. The footer of the interface displays 'Nagios XI 5.7.5', a 'Check for Updates' link, and copyright information for Nagios Enterprises, LLC.

Web site monitor, Step 6,



The screenshot shows the Nagios XI interface after the 'Website Monitoring Wizard' has completed. The main content area displays a green success message: 'Configuration applied successfully.' Below this, a green box contains the text: 'Your configuration changes have been successfully applied and the monitoring engine was restarted.' Further down, it says 'Configuration Request Successful' and provides two buttons: 'Run this monitoring wizard again' and 'Run another monitoring wizard'. Under 'Other Options', there are links to 'View status details for 27.147.194.136' and 'View the latest configuration snapshots'. The footer is identical to the previous screenshot, showing 'Nagios XI 5.7.5' and copyright information.

Then Views, Host Detail

Rotation is stopped

View Tools

Start Rotation

New View

Manage My Views

My Views

Tactical Overview

Open Problems

Host Detail

Service Detail

Hostgroup Overview

Host Status

All hosts

Host Status Summary

Up	Down	Unreachable	Pending
2	0	0	0
Unhandled		Problems	All
0		0	2

Last Updated: 2021-01-08 19:04:24

Service Status Summary

Ok	Warning	Unknown	Critical	Pending
12	0	3	1	0
Unhandled		Problems		All
4		4		16

Last Updated: 2021-01-08 19:04:24

Showing 1-2 of 2 total records

Page 1 of 1 15 Per Page Go

Search...

Host	Status	Duration	Attempt	Last Check	Status Information
27.147.194.136	Up	8m 39s	1/5	2021-01-08 19:03:26	OK - 27.147.194.136 rta 10.023ms lost 0%
localhost	Up	53m 54s	1/10	2021-01-08 18:59:41	OK - 127.0.0.1 rta 0.021ms lost 0%

Last Updated: 2021-01-08 19:04:24

Page 1 of 1 15 Per Page Go

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Check for Updates

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Home,

Quick View

Home Dashboard

Tactical Overview

Birdseye

Operations Center

Operations Screen

Open Service Problems

Open Host Problems

All Service Problems

All Host Problems

Network Outages

Details

Service Status

Host Status

Hostgroup Summary

Hostgroup Overview

Hostgroup Grid

Servicegroup Summary

Servicegroup Overview

Servicegroup Grid

BPI

Metrics

Graphs

Performance Graphs

Graph Explorer

Maps

World Map

BBmap

Hypermap

Minemap

NagVis

Network Status Map

Incident Management

Latest Alerts

Acknowledgements

Scheduled Downtime

Mass Acknowledge

Mass Immediate Check

Recurring Downtime

Notifications

Monitoring Process

Process Info

Performance

Scheduling Queue

Event Log

Home Dashboard

Getting Started Guide

Common Tasks:

- Change your account settings
- Change your notifications settings
- Configure your monitoring setup

Getting Started:

- Learn about XI
- Sign up for XI news

Administrative Tasks

Task

Initial Setup Tasks:

Host Status Summary

Up	Down	Unreachable	Pending
1	0	0	0
Unhandled		Problems	All
0		0	1

Last Updated: 2021-01-07 10:38:57

Service Status Summary

Ok	Warning	Unknown	Critical	Pending
11	0	0	1	0
Unhandled		Problems		All
1		1		12

Last Updated: 2021-01-07 10:39:13

We're Here To Help!

Nagios XI 5.7.5

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Views,

[illegible]

Nagios XI Home Views Dashboards Reports Configure Tools Help Admin 🔍 ✅ 👤 nagiosadmin 🚪 Logout ☰

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Dashboard Tools

- + New Dashboard
- 📁 Manage My Dashboards
- 🛠️ Deploy Dashboards

My Dashboards

Home Page

Add Dashlets

- 📊 Available Dashlets
- ⚙️ Manage Dashlets

[Administrative Tasks](#)
Administrative Tasks

? ⭐

Task

Initial Setup Tasks:

- [Configure system settings](#)
Configure basic settings for your system.
- [Configure mail settings](#)
Configure email settings for your system.

Ongoing Tasks:

- [Configure your monitoring setup](#)
Add or modify items to be monitored.
- [Add new user accounts](#)
Setup new users with access to Nagios XI.

[Getting Started](#)
Getting Started Guide

Common Tasks:

- [Change your account settings](#)
Change your account password and general preferences.
- [Change your notifications settings](#)
Change how and when you receive alert notifications.
- [Configure your monitoring setup](#)
Add or modify items to be monitored with easy-to-use wizards.

Getting Started:

- [Learn about XI](#)
Learn more about XI and its capabilities.
- [Signup for XI news](#)
Stay informed on the latest updates and happenings for XI.

[Server Statistics](#)
Server Statistics

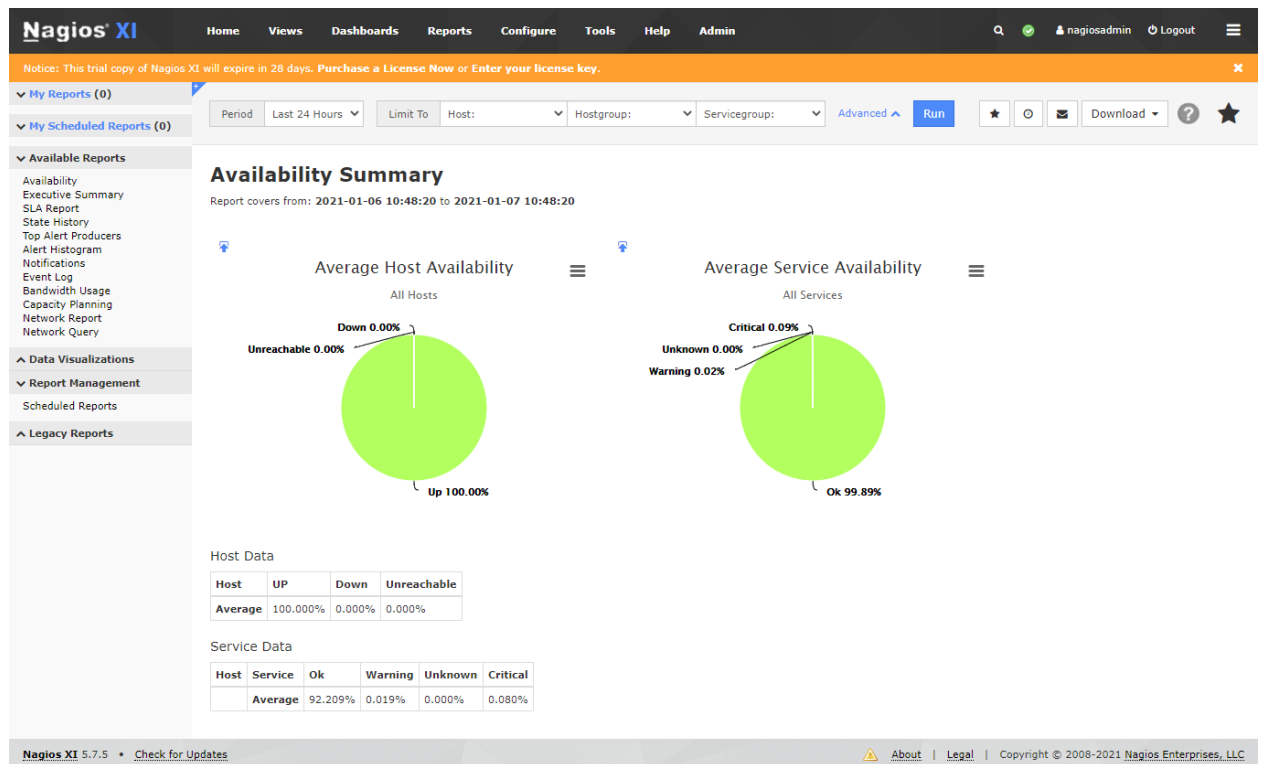
Metric	Value	
Load		
1-min	0.59	<div style="width: 10%;"></div>
5-min	2.14	<div style="width: 30%;"></div>
15-min	3.48	<div style="width: 50%;"></div>
CPU Stats		
User	1.25%	<div style="width: 2%;"></div>
Nice	0.00%	<div style="width: 0%;"></div>
System	0.83%	<div style="width: 1%;"></div>
I/O Wait	44.24%	<div style="width: 80%;"></div>
Steal	0.00%	<div style="width: 0%;"></div>
Idle	53.69%	<div style="width: 90%;"></div>
Memory		
Total	1828 MB	
Used	624 MB	<div style="width: 30%;"></div>
Free	940 MB	<div style="width: 70%;"></div>
Shared	9 MB	<div style="width: 0.5%;"></div>
Buffers	264 MB	<div style="width: 15%;"></div>
Cached	1055 MB	<div style="width: 60%;"></div>
Swap		
Total	2047 MB	
Used	0 MB	<div style="width: 0%;"></div>
Free	2047 MB	<div style="width: 100%;"></div>

Last Updated: 2021-01-07 10:44:34

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Reports:

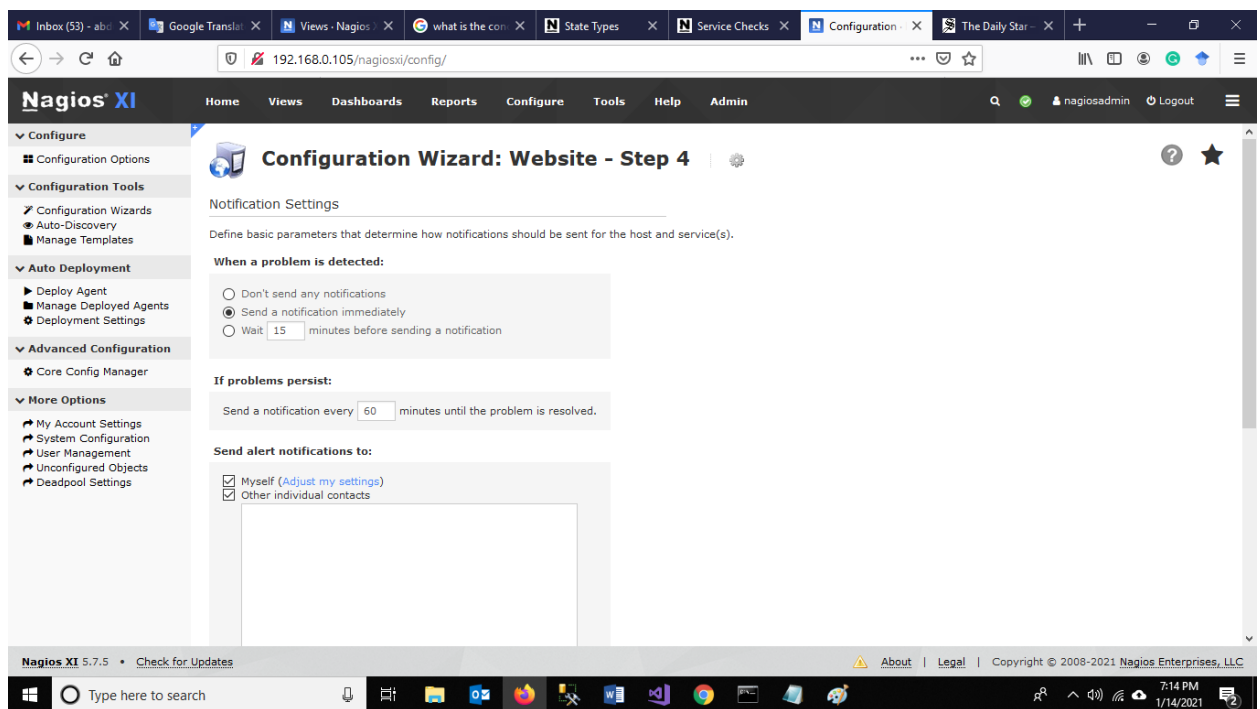
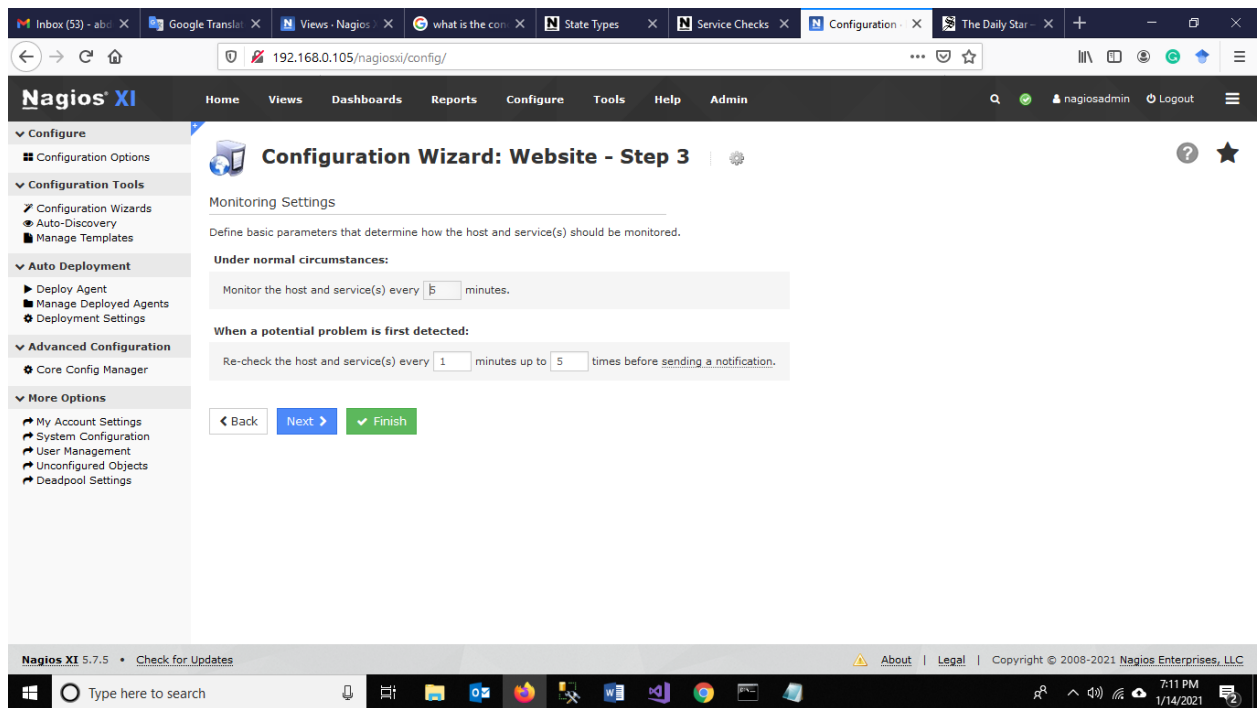


Service Status Summary

Service Status Summary

Ok	Warning	Unknown	Critical	Pending
753	85	35	127	7
Unhandled		Problems		All
247		247		1007

Last Updated: 2021-01-14 01:11:16



State Types

<https://assets.nagios.com/downloads/nagioscore/docs/nagioscore/3/en/statetypes.html>

<https://assets.nagios.com/downloads/nagioscore/docs/nagioscore/3/en/servicechecks.html>

Pros and Cons

Pros

- Nagios is open source software. It's free to use and edit.
- It has an open configuration which is easy to add a custom scripts to extend the services available.
- There're many devices which the Nagios system can monitor. The requirement is an SNMP protocol on that device.
- Alert, notification or comment the status of the system. It has varieties of alert tools.
- It has many plugins and add-ons which are free to download and develop.

(<https://www.nagios.com/news/2020/08/benefits-of-network-monitoring/>)

Cons

- Many features are not available on a free version of Nagios. Features such as wizards or interactive dashboard are available on Nagios XI, which is very expensive.
- There're many configuration files which are very hard to configure.
- Nagios core has a confusing interface.
- Nagios can't monitor network throughput (bandwidth uses or available).
- Nagios can't manage the network, just monitor the network.
- Nagios makes no distinction among different types of devices like servers, routers, or switches.
- Nagios treats every device generically as a host.

Notes:

1. **The main tasks of Nagios are to monitor status of network devices and their services and to notify system administrators of network problems.**
2. Nagios perform status check and notify a problem through the use of external "plugins", which are compiled executables or scripts (Perl, shell, etc.)
3. The core of Nagios engine is a scheduler daemon that regularly executes plugins to probe specified network devices and their services

How we use and understand Nagios Log Server?

Nagios Log Server facilitates the ability to search all entries of logs in a quick and easy way. Beyond that, it has allowed us to configure alerts for notification when there are potential threats (may they be security threats or only application-side problems), and to filter the data for audits and compliance.

Admin:

User management,

The screenshot shows the Nagios Log Server interface. The top navigation bar includes links for Home, Dashboards, Reports, Alerting, Configure, Help, Admin, and a green button to Add Log Source. A search bar for logs is also present. The left sidebar contains a tree view with categories: Reports (Audit Log), System (Cluster Status, Instance Status, Index Status, Snapshots & Maintenance, System Status, Command Subsystem), Management (User Management, Host List Management, LDAP/AD Integration, Monitor Backend (NCPA), Custom Includes), and General (Global Settings, Mail Settings, License Information, Proxy Configuration). The main content area is titled 'User Management' and features a '+ Create User' button and a link to 'Add Users from LDAP/AD'. Below this is a table with columns: Username, Email, Access Level, Account Type, API Access, and Action. The table contains one entry for 'hadi (MD, ABDUL HAI AL HADI)' with email 'abdul.hadi@northsouth.edu' and access level 'Admin'. The footer shows 'Nagios Log Server 2.1.7' and a 'Check for updates' link.

Username	Email	Access Level	Account Type	API Access	Action
hadi (MD, ABDUL HAI AL HADI)	abdul.hadi@northsouth.edu	Admin	Local	Yes	Edit

Create User

The screenshot shows the 'Create User' page in Nagios Log Server. The top navigation bar is identical to the previous page. The left sidebar is also identical. The main content area is titled 'Create User' and includes a note: 'Please enter all fields of the new users information below. Starred fields are required'. There are three tabs: 'Details' (selected), 'External Authentication', and 'Permissions'. The 'User Details' section contains two required fields: 'Full Name' and 'Email'. The 'Account Information' section contains three required fields: 'Username', 'Password', and 'Confirm Password', along with a 'Language' dropdown menu set to 'Default'. At the bottom are 'Create User' and 'Cancel' buttons. The footer shows 'Nagios Log Server 2.1.7' and a 'Check for updates' link.

User Permissions

Nagios® LS

Home

Dashboards

Reports

Alerting

Configure

Help

Admin

+ Add Log Source

Search logs ...

hadi

Logout

Reports

Audit Log

System

Cluster Status

Instance Status

Index Status

Snapshots & Maintenance

System Status

Command Subsystem

Management

User Management

Host List Management

LDAP/AD Integration

Monitor Backend (NCPA)

Custom Includes

General

Global Settings

Mail Settings

License Information

Proxy Configuration

Create User

Please enter all fields of the new users information below. Starred fields are required

Details

External Authentication

Permissions

User Access Level

Set the user level of access inside the UI.

Admin

Full Access. Admins can change/delete all components and settings including indexes, backups, dashboards, queries, and alerts. They can also update the Nagios Log Server configuration and manage users.

User

Limited Access. Users are allowed to only edit their account and their own dashboards by default.

User Permissions

Give users special permissions to access certain tabs. By default, users can only view alerts.

Permission	View	Create	Edit	Delete	Admin	
Alerts	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Toggle All
Contacts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Toggle All
Configuration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Toggle All

Restrict Host Visibility

Create a whitelist of visible hosts for non-API users.

Host Lists

Selected Host Lists

Select any additional hosts from the menu to the left, or enter their IP addresses manually on the right.

Known Hosts

Additional Hosts

API Access

If you want to allow this user to use the external API via an access key.

Yes

No

Create UserCancel

Nagios Log Server 2.1.7

Check for updates

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Configuring devices and applications

The screenshot shows the Nagios Log Server (NLS) web interface. The top navigation bar includes links for Home, Dashboards, Reports, Alerting, Configure, Help, Admin, and a green 'Add Log Source' button. A search bar for logs is also present. The left sidebar contains a 'Configure' section with 'Add Log Source' and 'Configuration Editor' links, and a 'System Logs' section with links for Linux, Windows, and Network Device. The main content area is titled 'Add Log Source' and provides instructions on setting up log sources. It features several categorized buttons: 'System Logs' (Linux, Windows, Network Device), 'Application Logs' (Apache Server, IIS Server, MySQL Server, MS SQL Server, PHP), 'File Monitoring' (Linux Files, Windows Files), and 'Archived Logs' (Import From File). The footer of the interface shows 'Nagios Log Server 2.1.7' and a 'Check for updates' link, along with 'About', 'Legal', and 'Copyright' information.

Windows:

Download agent

Get started by downloading NXLog CE and install it on the Windows desktop or server you want to receive logs from.

The screenshot shows a Notepad window titled 'README.txt - Notepad'. The text inside provides instructions for installing and configuring NXLog. It states that the configuration file should be located under 'C:\Program Files\nxlog\conf\nxlog.conf' or 'C:\Program Files (x86)\nxlog\conf\nxlog.conf' depending on the Windows architecture. It also mentions that the service can be started from the service manager or by running the executable 'C:\Program Files (x86)\nxlog\nxlog.exe' with the '-f' command line argument. The log file location is specified as 'C:\Program Files (x86)\nxlog\data\nxlog.log'. The README also refers to the 'NXLOG Reference Manual' for more details, available online at 'http://nxlog.org/resources' and installed locally at 'C:\Program Files (x86)\nxlog\doc\'. The Notepad window is shown over a Windows taskbar with various application icons and a system clock showing 7:08 PM on 1/29/2021.

Notes:

1. Nagios Log Server provides centralized log management, monitoring and analysis software.

Best Network Monitoring Software

The best Network Monitoring Software vendors are Zabbix, PRTG Network Monitor, SolarWinds NPM, LogicMonitor, and NETSCOUT nGeniusONE. Zabbix is the top solution according to IT Central Station reviews and rankings. One reviewer writes: "A free enterprise monitoring solution ", and another reviewer writes: "Reasonable network monitoring which works okay if you don't mind the glitches". The 2nd best product is PRTG Network Monitor. A user writes: "The product makes it easier for us to find and identify problems", and another reviewer writes: "We can see as soon as there is a problem and track it down pretty quickly".

Summary

- Continuous monitoring is a process to detect, report, respond all the attacks which occur in its infrastructure.
- Nagios is free to use open source software tool for continuous monitoring
- Nagios offers effective monitoring of entire infrastructure and business processes.
- Ethan Galstad uses the ideas and architecture of his earlier work to begin building a new application Nagios which runs under Linux OS.
- Nagios is relatively scalable, Manageable, and Secure.
- Three important components of Nagios architecture are
 - 1) Web Interface (GUI)
 - 2) Nagios Server
 - 3) Plugin
- Nagios allows application monitoring from a single console with transaction-level insights
- This tool not allows us to manage the network but only allows to monitor the network.

System Requirements

These figures represent the minimum requirements to run Nagios XI. To view more detailed guidelines [view our hardware requirements PDF](#).

Hard Drive

20 GB

Memory

2 GB

CPU

Dual core, 2.4 GHz

Operating System

CentOS or Redhat Enterprise Linux (RHEL),
Ubuntu or Debian

Database

MySQL/MariaDB, plus PostgreSQL if running versions less than XI 5 or if upgrading from a pre-5 version