

Nagios:

- An open source software for continuous monitoring of systems, networks and infrastructure.
- Runs plugins stored on a server which is connected with a host or another server on your network, or the internet.
- In case of any failure, nagios alerts about the issues so that the technical team can perform the recovery process immediately.
- Helps in reducing downtime
- Actively monitors entire infrastructure
- Monitors and troubleshoots server performance issues
- Automates fixing problems
- Detects all types of network or server issues
- Finds the root cause of problems so as to provide resolution.
- Developed by Ethan Galstad in 1999 as part of Netsant distribution
- In 2002, it was renamed Nagios as a result of trademark issues with Netsant.
- First commercial version Nagios Xi was released in 2009
- Again renamed as Nagios Core in 2012
- Uses port no 5666, 5667 and 5668 to monitor its client.

Features of Nagios

- Oldest and Latest
- Good log and database system
- INformative and attractive web interface
- Automatically send alerts if condition changes
- Helps to detect network errors or server crashes
- Can monitor the entire business process and IT infra with a single pass
- Monitor network services like http, smtp, snmp, ftp, ssh, pop, DNS, LDAP, IPM, etc.

Phases of Continuous Monitoring

Define

Establish

Implement

Analyze data and report finding

Respond

Review and update

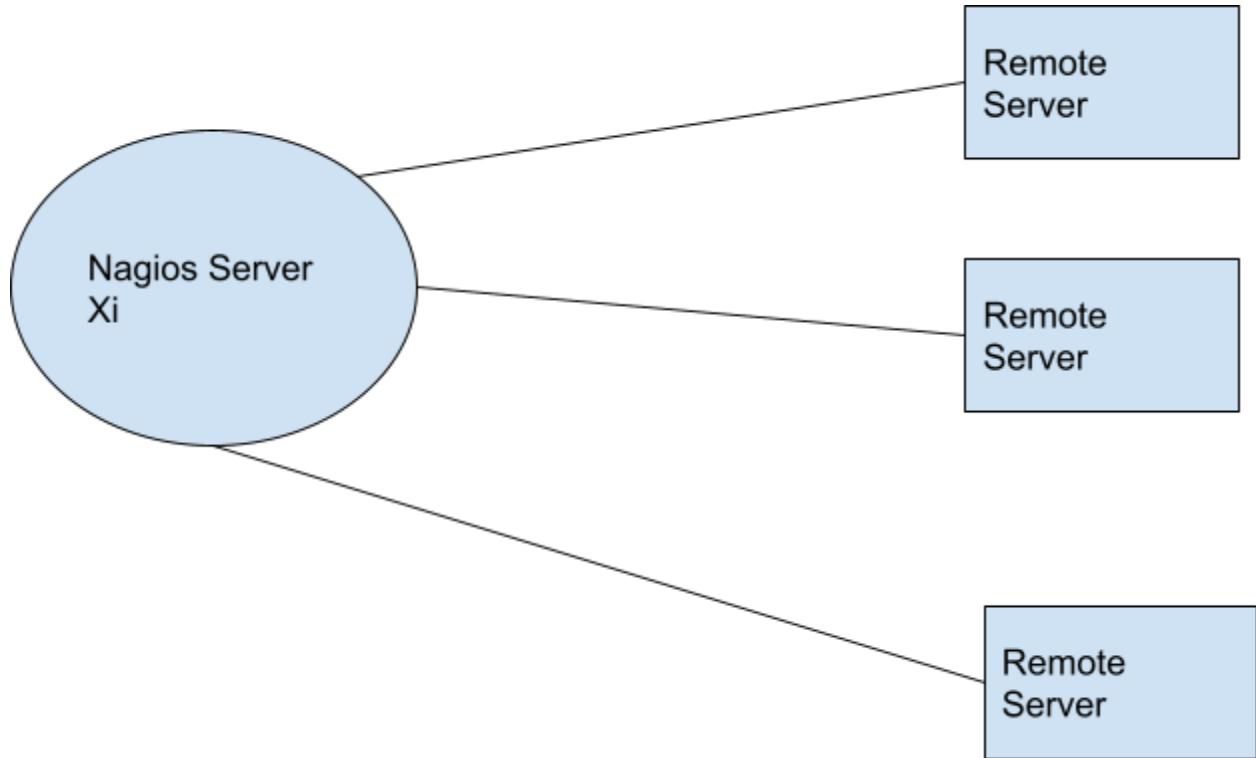
Why do we need it?

Continuous monitoring to detect:

- failure inside CI/CD pipeline
- Application Failure
- Infrastructure Failure
- Analysis of code failure

Other monitoring tools: Splunk, ELK, Prometheus, Sensu, Cloudwatch, Librato, Cibana, etc.

NRPE



Architecture

Lec-43 Continuous Monitoring

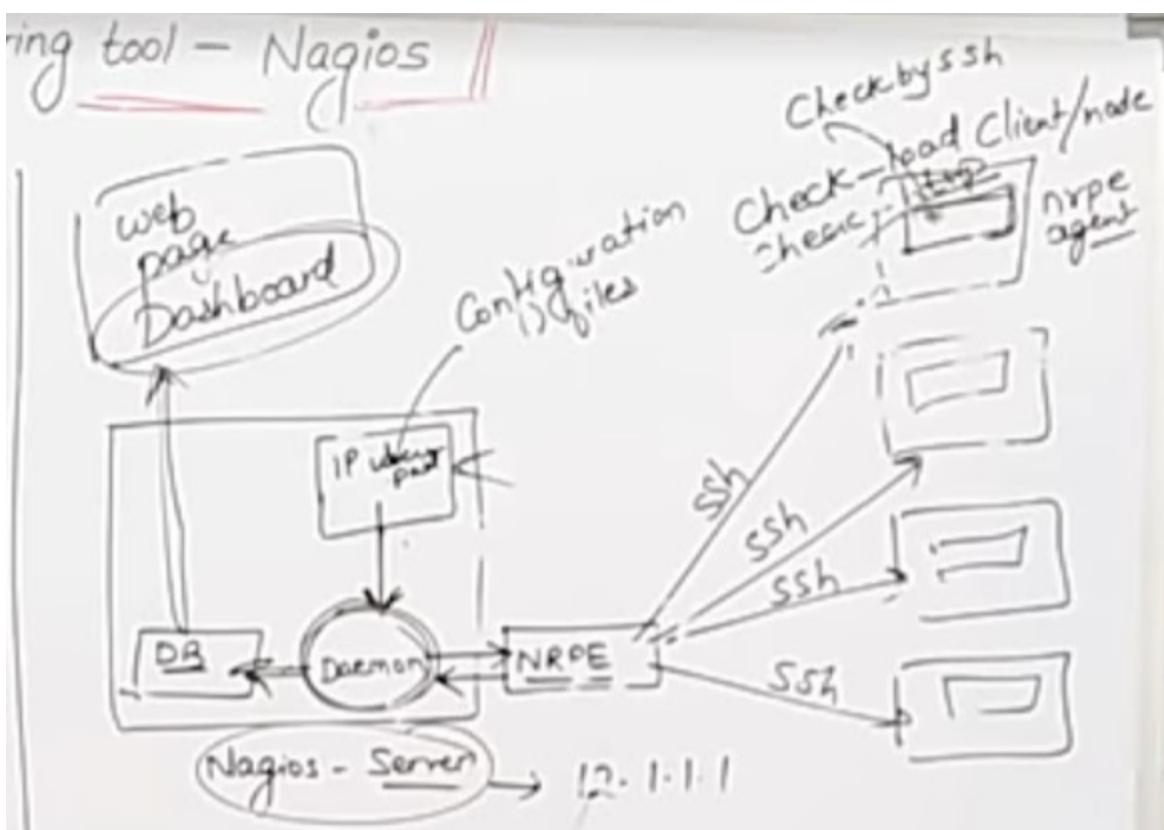
Nagios Architecture

Nagios is a Client-server architecture.
Usually on a network, a nagios server
is running on a host and plugins are
running on all the remote host which
should you monitor.

How does it works?

- Mention all details in Configuration files.
- Daemon read those details what data to be Collected.
- Daemon use NRPE plug-in to Collect data from nodes and store in its own database.
- Finally shows everything in dashboard.

Monitoring tool - Nagios



Nagios remote plug-in - executor

→ 12.1.1.1/nagios / username password

Lec-42

http://

Prerequisite

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Pre-requisite

- httpd (Browser)
- php (dashboard)
- gcc & gd (Compiler, to Convert raw code into binaries)
- makefile (to build)
- perl (Script)
- Main Configuration file
/usr/local/nagios/etc/nagios.cfg

All monitoring things called as 'Service'

for eg → 5 Servers → 4 checks each

you have to monitor → $5 \times 4 = 20$ Services

tool - Nagios



Map

Dashboard

Overview

In dashboard, you can see



Services

Warning

Unknown

Critical

Recovery

Pending



$$4 \times 2 = 8 \text{ Service}$$

Installation of Nagios on Linux

Lec-44 Installation of Nagios on Linux

To start Nagios Core installation you must have your EC2 instance up and run and have already Configured SSH access to the instance.

Step-1 → Install pre-requisite Softwares on your EC2 machine prior to Nagios installation like apache, php, gcc compiler and gd development libraries.

- Sudo su
- yum install httpd php
- yum install gcc glibc glibc-common
- yum install gd gd-devel

Step 2 Create account information you need to setup a nagios user. Run the following Commands:

- adduser -m nagios
- passwd nagios

Now, it ask to enter new password give '12345' as password

- groupadd nagioscmd
- usermod -a -G nagioscmd nagios
- usermod -a -G nagioscmd apache

Step 3 Download nagios Core and the plugins. Create a directory for storing the downloads

- mkdir ~./downloads
- cd ~./downloads

LEC-44 Installation of Nagios on Linux

Download the source code tarballs of both nagios and the nagios plugins

- wget http://prdownloads.sourceforge.net/sourceforge/nagios/nagios-4.0.8.tar.gz
- wget http://nagios-plugins.org/download/nagios-plugins-2.0.3.tar.gz

Step 4 - Compile and install Nagios extract the nagios sourcecode tarball

- tar zxvf nagios-4.0.8.tar.gz
- cd nagios-4.0.8

Run the Configuration Script with the name of the group which you have created in above Step.

- ./Configure --with-command-group=nagioscmd

Compile the Nagios Source Code

- make all

Install Binaries, init script, sample Config files and set permissions on the external Command directly

- make install
- make install-init
- make install-Config
- make install-commandmode

(To compile init)

Step 5 - Configure the Web interface

- make install-webconf

Step 6- Create a 'nagiosadmin' account
for login into the nagios web interface.
Set password as well.

→ `htpasswd -c /usr/local/nagios/etc/
htpasswd.users nagiosadmin`

Asking for password, set a new pwd

→ `Service httpd restart`

Step 7- Compile and install the Nagios
plugins. Extract the Nagios plugins
source code tarball

```
cd ~/downloads  
tar zxvf nagios-plugins-2.0.3.tar.gz  
cd nagios-plugins-2.0.3
```

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Compile & install the plugins

- ./Configure --with-nagios-user=nagios
--with-nagios-group=nagios
- make
- make install

Step 8 - Start Nagios. Add Nagios to the list of System services and have it automatically start when the system boots.

- chkconfig --add nagios
- chkconfig nagios on

Lec-44 Installation of

Verify the Sample Nagios Configuration files

→ `/usr/local/nagios/bin/nagios -v
/usr/local/nagios/etc/nagios.cfg`

If there are no errors, start nagios.

→ `Service nagios start`
→ `Service httpd restart`

Step 10 → Copy public ip of ec2 instance
and paste in google chrome, in given way

For eg → `20.1.1.1/nagios/`

ask for username → `nagiosadmin`

password → `12345`