Setting up nagios client Server(https://github.com/spkgzp/Nagios-Server-Client-Configuration-on-Centos-8-or-Rhel-8)

- Set hostname of our nagios server.

```
# hostnamectl set-hostname nagios-server.devdomain.local
```

- Edit "/etc/hosts" file and save ip and domain-name.

```
192.168.1.100 nagios-server.devdomain.local
192.168.1.200 nagios-client.devdomain.local
```

- Check SElinux "getenforce" or "sestatus" commands if inforcing mode place exec permissive mode using below commands.

```
# setenforce 0
or
# sed -i 's/SELINUX=.*/SELINUX=permissive/g' /etc/selinux/config && setenforce 0
```

- Check "getenforce" command permissive or not.
- Update system using below command.

```
# dnf update -y
```

- Now install all packageses for nagios-servers.

```
# dnf install @php @perl @httpd wget unzip glibc automake glibc-common gettext autoconf php php-cli gcc gd gd-devel net-snmp openssl-devel unzip net-snmp postfix net-snmp-utils -y
# dnf groupinstall "Development Tools" -y
```

- Start httpd service and set on boot time.

```
# systemctl enable --now httpd php-fpm
```

- Now check httpd status.

```
# systemctl status httpd
```

- Now download nagios-server(4.4.6) and exrtact the file using below commands.

```
# export VER="4.4.6"
# curl -SL
https://github.com/NagiosEnterprises/nagioscore/releases/download/nagios-$VER/nagios-$
VER.tar.gz | tar -xzf -
# cd nagios-$VER
# ls
```

- Run the "configure" file and using below commands.

```
# ./configure
# make all
# make install-groups-users
# usermod -a -G nagios apache
# make install
# make install-daemoninit
# make install-commandmode
# make install-config
# make install-webconf
# make install-exfoliation
# make install-classicui
# htpasswd -c /usr/local/nagios/etc/htpasswd.users nagiosadmin
pass: we
sucessfully add.
# systemctl restart httpd
# cd
```

- Now download and install nagios plugins.

```
# VER="2.3.3"
# curl -SL
https://github.com/nagios-plugins/nagios-plugins/releases/download/release-$VER/nagios-pl
ugins-$VER.tar.gz | tar -xzf -
# cd nagios-plugins-2.3.3/
# ./configure --with-nagios-user=nagios --with-nagios-group=nagios
# make
# make install
# /usr/local/nagios/bin/nagios -v /usr/local/nagios/etc/nagios.cfg
```

- Start and enable nagios service and check status.

```
# systemctl enable --now nagios
# systemctl status nagios
```

- Now enable firewall for http and https.

```
# firewall-cmd --permanent --add-service={http,https}
# firewall-cmd --reload
```

Now open Browser

- Check nagios dashboard

http://localhost/nagios

- Download NRPE{Nagios Remote Plugins Executer} and install.

```
# wget
https://github.com/NagiosEnterprises/nrpe/releases/download/nrpe-4.0.3/nrpe-4.0.3.tar.gz
# tar zxf nrpe-*.tar.gz
# cd nrpe-4.0.3/
# ./configure --enable-command-args
# make all
# make install-groups-users
# make install
# make install-config
```

- Update services file and set boot time.

```
# sh -c "echo >> /etc/services"
# sh -c "sudo echo '# Nagios services' >> /etc/services"
# sh -c "sudo echo 'nrpe 5666/tcp' >> /etc/services"
# make install-init
```

- Now enable nrpe services.

```
# systemctl enable nrpe
```

- Now open NRPE congiguration file, edit and save "nrpe.cfg" File.

```
# vim /usr/local/nagios/etc/nrpe.cfg
Edit below line:
106 allowed_hosts=127.0.0.1,<Client Machine ip>
122 dont_blame_nrpe=1

Uncumment bellow line:
313 ### MISC SYSTEM METRICS ###
314 command[check_users]=/usr/local/nagios/libexec/check_users $ARG1$
315 command[check_load]=/usr/local/nagios/libexec/check_load $ARG1$
316 command[check_disk]=/usr/local/nagios/libexec/check_disk $ARG1$
317 command[check_swap]=/usr/local/nagios/libexec/check_swap $ARG1$
318 command[check_cpu_stats]=/usr/local/nagios/libexec/check_cpu_stats.sh $ARG1$
319 command[check_mem]=/usr/local/nagios/libexec/custom_check_mem -n $ARG1$
320
321 ### GENERIC SERVICES ###
322 command[check_init_service]=sudo /usr/local/nagios/libexec/check_init_service
$ARG1$
323 command[check_services]=/usr/local/nagios/libexec/check_services -p $ARG1$
```

```
324
325 ### SYSTEM UPDATES ###
326 command[check_yum]=/usr/local/nagios/libexec/check_yum
327 command[check_apt]=/usr/local/nagios/libexec/check_apt
328
329 ### PROCESSES ###
330 command[check_all_procs]=/usr/local/nagios/libexec/custom_check_procs
331 command[check_procs]=/usr/local/nagios/libexec/check_procs $ARG1$
332
333 ### OPEN FILES ###
334 command[check_open_files]=/usr/local/nagios/libexec/check_open_files.pl $ARG1$
335
336 ### NETWORK CONNECTIONS ###
337 command[check_netstat]=/usr/local/nagios/libexec/check_netstat.pl -p $ARG1$
$ARG2$
```

Save the file.

- Add port of nrpe using firewall command.

```
# cd
# firewall-cmd --permanent --add-port=5666/tcp
# firewall-cmd --reload
# firewall-cmd --list-all
```

- Now Start NRPE service.

```
# systemctl start nrpe
```

- Create a Directory and change the permissions.

```
# mkdir /usr/local/nagios/etc/servers
# chown -R nagios:nagios /usr/local/nagios/etc/servers
# chmod g+w /usr/local/nagios/etc/servers
```

- Edit Nagios Server Conf File (nagios.cfg).

```
sudo vim /usr/local/nagios/etc/nagios.cfg
Uncomment 51 line:
51 cfg_dir=/usr/local/nagios/etc/servers
```

- Now add some line in commands.cfg File and Modules Define For Monitoring.

```
# vim /usr/local/nagios/etc/objects/commands.cfg

* Define in end below line *

define command {
 command_name check_nrpe
 command_line $USER$/check_nrpe -H $HOSTADDRESS$ -t 30 -c $ARG1$ -a $ARG2$
```

}

- New Create File For New services.

```
# vim /usr/local/nagios/etc/servers/yourhost.cfg

define host {
use linux-server
host_name nagios-client.devdomain.local
alias My client server
address 192.168.122.188
max_check_attempts 5
check_period 24x7
notification_interval 30
notification_period 24x7
}

##############################################################################
######
#
#CLIENT SERVICE DEFINITIONS
#
##############################################################################
######

# Define a service to "ping" the local machine

define service {

  use                 local-service         ; Name of service template to use
  host_name           nagios-client.devdomain.local
  service_description    PING
  check_command         check_ping!100.0,20%!500.0,60%
}



# Define a service to check the disk space of the root partition
# on the local machine.  Warning if < 20% free, critical if
# < 10% free space on partition.

define service {

  use                 local-service         ; Name of service template to use
  host_name           nagios-client.devdomain.local
  service_description    Root Partition
  check_command         check_local_disk!20%!10%!/
}
```

```
# Define a service to check the number of currently logged in
# users on the local machine.  Warning if > 20 users, critical
# if > 50 users.

define service {

  use                  local-service         ; Name of service template to use
  host_name            nagios-client.devdomain.local
  service_description    Current Users
  check_command          check_local_users!20!50
}



# Define a service to check the number of currently running procs
# on the local machine.  Warning if > 250 processes, critical if
# > 400 processes.

define service {

  use                  local-service         ; Name of service template to use
  host_name            nagios-client.devdomain.local
  service_description    Total Processes
  check_command          check_local_procs!250!400!RSZDT
}



# Define a service to check the load on the local machine.

define service {

  use                  local-service         ; Name of service template to use
  host_name            nagios-client.devdomain.local
  service_description    Current Load
  check_command          check_local_load!5.0,4.0,3.0!10.0,6.0,4.0
}



# Define a service to check the swap usage the local machine.
# Critical if less than 10% of swap is free, warning if less than 20% is free

define service {
```

```
  use                  local-service         ; Name of service template to use
  host_name            nagios-client.devdomain.local
  service_description    Swap Usage
  check_command          check_local_swap!20%!10%
}



# Define a service to check SSH on the local machine.
# Disable notifications for this service by default, as not all users may have SSH enabled.

define service {

  use                  local-service         ; Name of service template to use
  host_name            nagios-client.devdomain.local
  service_description    SSH
  check_command          check_ssh
  notifications_enabled   0
}


# Define a service to check HTTP on the local machine.
# Disable notifications for this service by default, as not all users may have HTTP enabled.

define service {

  use                  local-service         ; Name of service template to use
  host_name            nagios-client.devdomain.local
  service_description    HTTP
  check_command          check_http
  notifications_enabled   0
}
```

- Now Restart Nagios service.

```
# systemctl restart nagios
```

2. Setup of Nagios-client

All steps for nagios-client

- Set hostname of our nagios-client

```
 # hostnamectl set-hostname nagios-client.devdomain.local
```

- Edit "/etc/hosts" file and save ip and domain-name.

```
 192.168.1.100 nagios-server.devdomain.local
```

192.168.1.200 nagios-client.devdomain.local

- Check SElinux "getenforce" or "sestatus" commands if inforcing mode plese exec permissive mode using below commands.

```
# setenforce 0
or
# sed -i 's/SELINUX=.*/SELINUX=permissive/g' /etc/selinux/config && setenforce 0
```

- Check "getenforce" command permissive or not.
- Update system using below command.

```
# dnf update -y
```

- Now install all packageses for nagios-Client.

```
# dnf install -y gcc glibc glibc-common openssl openssl-devel perl wget
# cd /usr/src/
```

- Download NRPE{Nagios Remote Plugins Executer} and install.

```
# wget
https://github.com/NagiosEnterprises/nrpe/releases/download/nrpe-4.0.3/nrpe-4.0.3.tar.gz
# tar zxf nrpe-*.tar.gz
# cd nrpe-4.0.3/
# ./configure --enable-command-args
# make all
# make install-groups-users
# make install
# make install-config
```

- Update services file and set boot time.

```
# sh -c "echo >> /etc/services"
# sh -c "sudo echo '# Nagios services' >> /etc/services"
# sh -c "sudo echo 'nrpe 5666/tcp' >> /etc/services"
# make install-init
```

- Now enable nrpe services.

```
# systemctl enable nrpe
```

- Now open NRPE congiguration file, edit and save "nrpe.cfg" File.

```
# vim /usr/local/nagios/etc/nrpe.cfg
Edit below line:
106 allowed_hosts=127.0.0.1,<Server Machine ip>
122 dont_blame_nrpe=1
```

Uncumment bellow line:

```
313 ### MISC SYSTEM METRICS ###
314 command[check_users]=/usr/local/nagios/libexec/check_users $ARG1$
315 command[check_load]=/usr/local/nagios/libexec/check_load $ARG1$
316 command[check_disk]=/usr/local/nagios/libexec/check_disk $ARG1$
317 command[check_swap]=/usr/local/nagios/libexec/check_swap $ARG1$
318 command[check_cpu_stats]=/usr/local/nagios/libexec/check_cpu_stats.sh $ARG1$
319 command[check_mem]=/usr/local/nagios/libexec/custom_check_mem -n $ARG1$
320
321 ### GENERIC SERVICES ###
322 command[check_init_service]=sudo /usr/local/nagios/libexec/check_init_service
$ARG1$
323 command[check_services]=/usr/local/nagios/libexec/check_services -p $ARG1$
324
325 ### SYSTEM UPDATES ###
326 command[check_yum]=/usr/local/nagios/libexec/check_yum
327 command[check_apt]=/usr/local/nagios/libexec/check_apt
328
329 ### PROCESSES ###
330 command[check_all_procs]=/usr/local/nagios/libexec/custom_check_procs
331 command[check_procs]=/usr/local/nagios/libexec/check_procs $ARG1$
332
333 ### OPEN FILES ###
334 command[check_open_files]=/usr/local/nagios/libexec/check_open_files.pl $ARG1$
335
336 ### NETWORK CONNECTIONS ###
337 command[check_netstat]=/usr/local/nagios/libexec/check_netstat.pl -p $ARG1$
$ARG2$
```

Save the file.

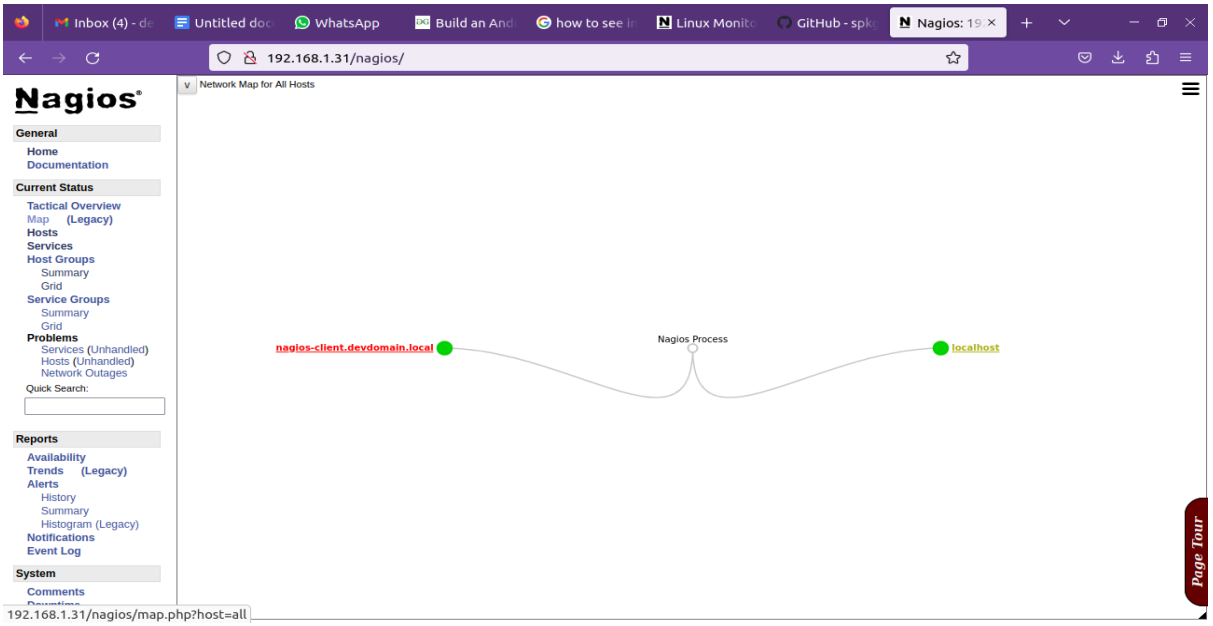
- Add port of nrpe using firewall command.

```
# cd
# firewall-cmd --permanent --add-port=5666/tcp
# firewall-cmd --reload
# firewall-cmd --list-all
```

- Now Start NRPE service.

```
# systemctl start nrpe
```

Final output after all n localhost/nagios is


Inbox (4) - de
Untitled doc
WhatsApp
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Nagios: 19
192.168.1.31/nagios/
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Network Outages
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Notifications
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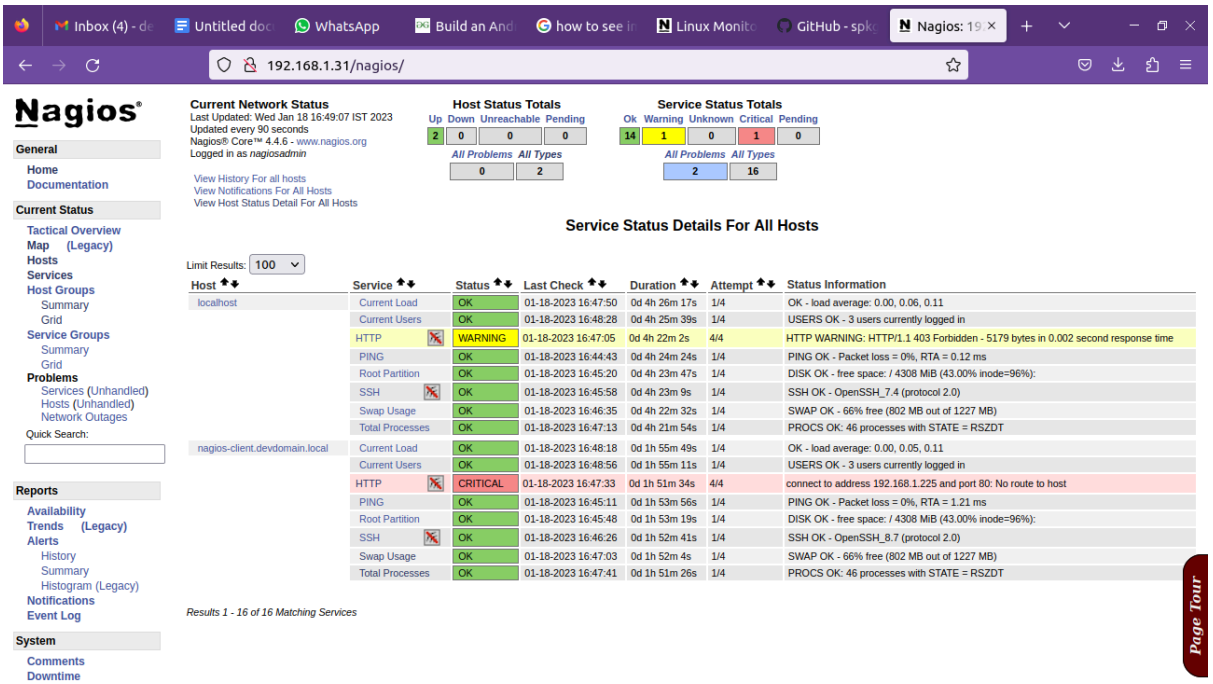
Comments
Network Map for All Hosts
nagios-client.devdomain.local
Nagios Process
localhost
Page Tour
192.168.1.31/nagios/map.php?host=all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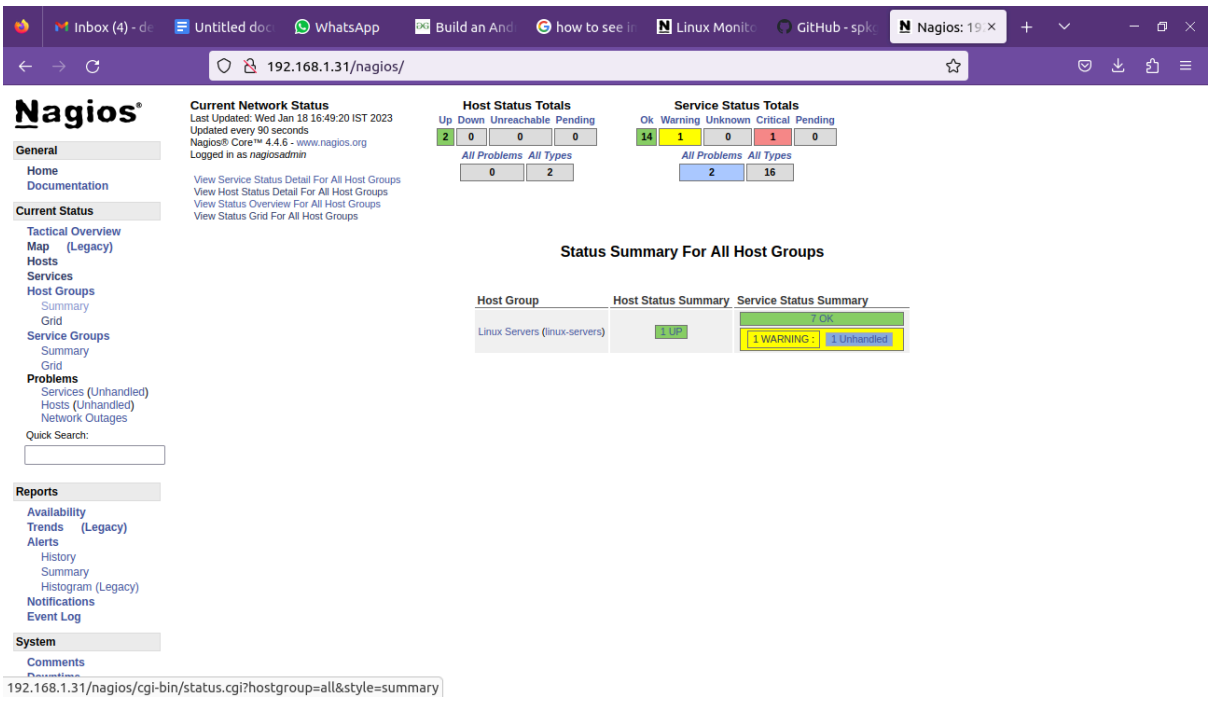
Alerts
History
Summary
Histogram (Legacy)
Notifications
Event Log
System
Comments
Downtime
Process Info
Current Network Status
Last Updated: Wed Jan 18 16:49:07 IST 2023
Updated every 90 seconds
Nagios® Core™ 4.4.6 - www.nagios.org
Logged in as nagiosadmin
View History For all hosts
View Notifications For All Hosts
View Host Status Detail For All Hosts
Host Status Totals
Up Down Unreachable Pending
2 0 0 0
All Problems All Types
0 2
Service Status Totals
Ok Warning Unknown Critical Pending
14 1 0 1 0
All Problems All Types
2 16
Service Status Details For All Hosts
Limit Results: 100
Host
Service
Status
Last Check
Duration
Attempt
Status Information
localhost
Current Load OK 01-18-2023 16:47:50 0d 4h 26m 17s 1/4 OK - load average: 0.00, 0.06, 0.11
Current Users OK 01-18-2023 16:48:28 0d 4h 25m 39s 1/4 USERS OK - 3 users currently logged in
HTTP WARNING 01-18-2023 16:47:05 0d 4h 22m 2s 4/4 HTTP WARNING: HTTP/1.1 403 Forbidden - 5179 bytes in 0.002 second response time
PING OK 01-18-2023 16:44:43 0d 4h 24m 24s 1/4 PING OK - Packet loss = 0%, RTA = 0.12 ms
Root Partition OK 01-18-2023 16:45:20 0d 4h 23m 47s 1/4 DISK OK - free space: / 4308 MiB (43.00% inode=96%):
SSH OK 01-18-2023 16:45:58 0d 4h 23m 9s 1/4 SSH OK - OpenSSH_7.4 (protocol 2.0)
Swap Usage OK 01-18-2023 16:46:35 0d 4h 22m 32s 1/4 SWAP OK - 66% free (802 MB out of 1227 MB)
Total Processes OK 01-18-2023 16:47:13 0d 4h 21m 54s 1/4 PROCS OK: 46 processes with STATE = RSZDT
nagios-client.devdomain.local
Current Load OK 01-18-2023 16:48:18 0d 1h 55m 49s 1/4 OK - load average: 0.00, 0.05, 0.11
Current Users OK 01-18-2023 16:48:56 0d 1h 55m 11s 1/4 USERS OK - 3 users currently logged in
HTTP CRITICAL 01-18-2023 16:47:33 0d 1h 51m 34s 4/4 connect to address 192.168.1.225 and port 80: No route to host
PING OK 01-18-2023 16:45:11 0d 1h 53m 56s 1/4 PING OK - Packet loss = 0%, RTA = 1.21 ms
Root Partition OK 01-18-2023 16:45:48 0d 1h 53m 19s 1/4 DISK OK - free space: / 4308 MiB (43.00% inode=96%):
SSH OK 01-18-2023 16:46:26 0d 1h 52m 41s 1/4 SSH OK - OpenSSH_8.7 (protocol 2.0)
Swap Usage OK 01-18-2023 16:47:03 0d 1h 52m 4s 1/4 SWAP OK - 66% free (802 MB out of 1227 MB)
Total Processes OK 01-18-2023 16:47:41 0d 1h 51m 26s 1/4 PROCS OK: 46 processes with STATE = RSZDT
Results 1 - 16 of 16 Matching Services
Page Tour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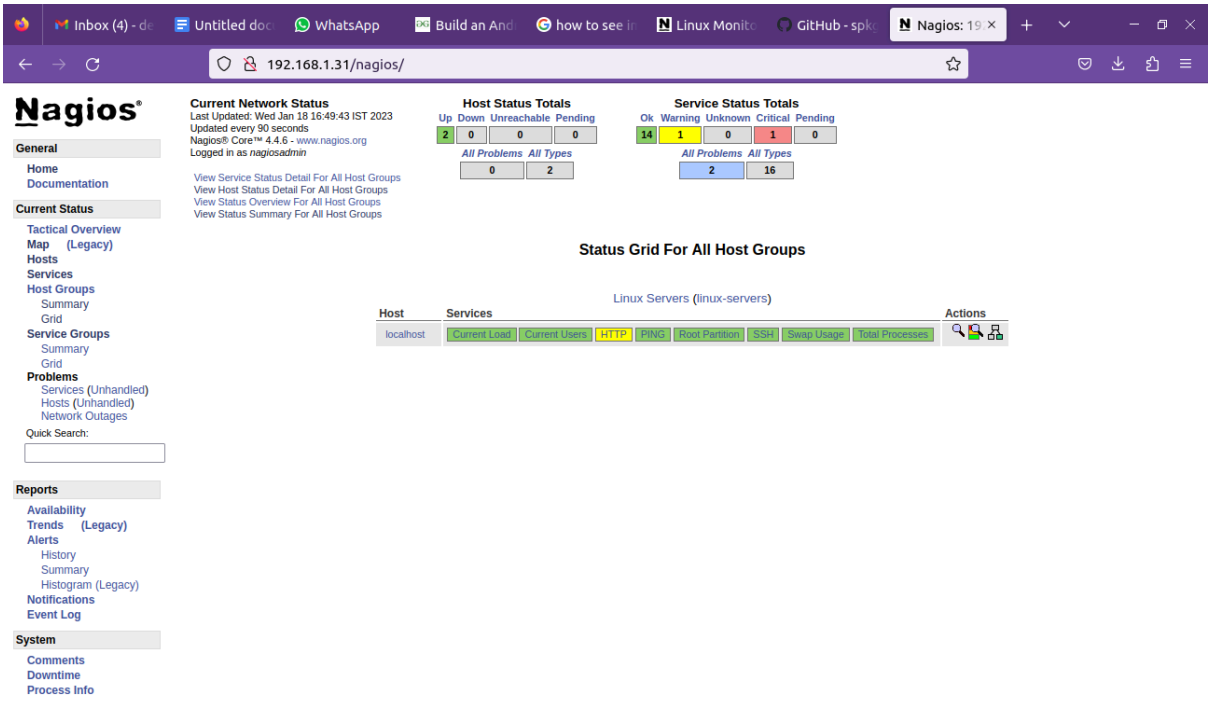
Logged in as nagiosadmin
View Service Status Detail For All Host Groups
View Host Status Detail For All Host Groups
View Status Overview For All Host Groups
View Status Grid For All Host Groups
Host Status Totals
Up Down Unreachable Pending
2 0 0 0
All Problems All Types
0 2
Service Status Totals
Ok Warning Unknown Critical Pending
14 1 0 1 0
All Problems All Types
2 16
Status Summary For All Host Groups
Host Group
Host Status Summary
Service Status Summary
Linux Servers (linux-servers)
1 UP
7 OK
1 WARNING :
1 Unhandled
192.168.1.31/nagios/cgi-bin/status.cgi?hostgroup=all&style=summary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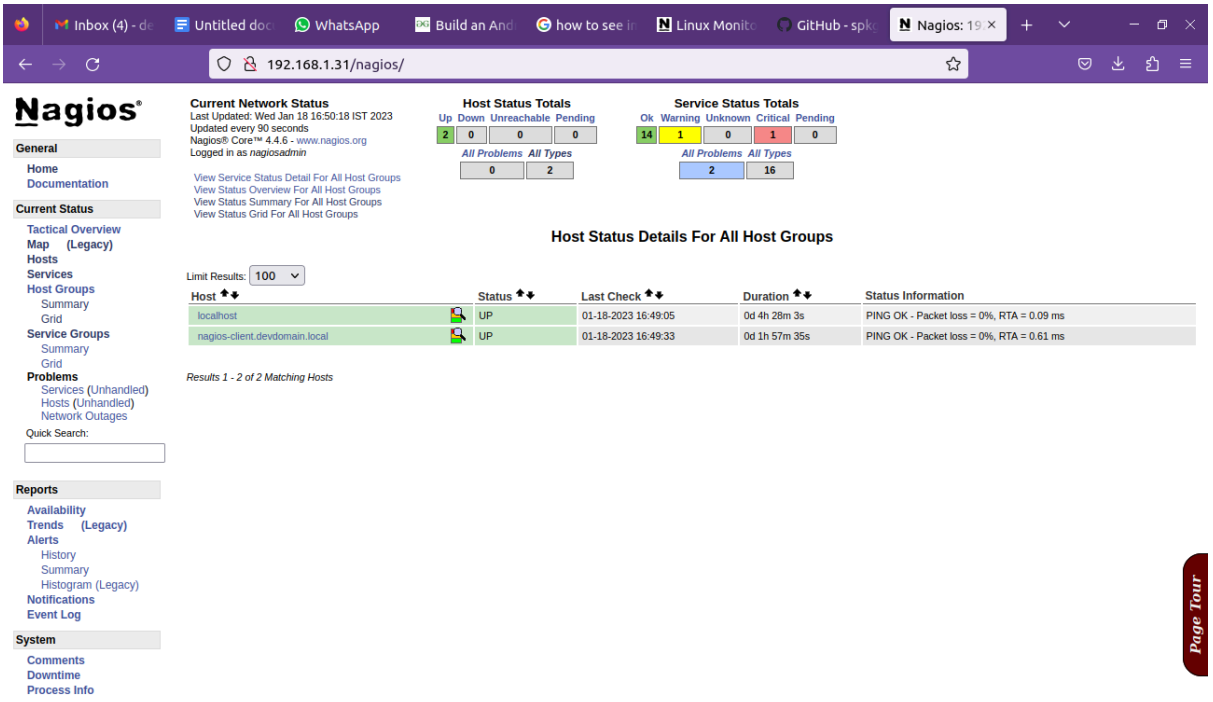
Host Status Totals
Up Down Unreachable Pending
2 0 0 0
All Problems All Types
0 2
Service Status Totals
Ok Warning Unknown Critical Pending
14 1 0 1 0
All Problems All Types
2 16
Status Grid For All Host Groups
Linux Servers (linux-servers)
Host
Services
Actions
localhost
Current Load
Current Users
HTTP
PING
Root Partition
SSH
Swap Usage
Total Processes



Email Alerts Configuration on Nagios Server(https://tapanpatni58.blogspot.com/2022/10/email-alerts-configuration-on-nagios.html)

Step 1: *Edit below code in contact file : vi /usr/local/nagios/etc/objects/contacts.cfg*

define contact

{

contact_name nagiosadmin ; Short name of user

alias Nagios Admin ; Full name of user

email devendramauryamr33@.com

service_notification_commands notify-service-by-email

host_notification_commands notify-host-by-email

service_notification_options w,u,c,r,f,s

host_notification_options d,u,r,f,s

service_notification_period 24x7

host_notification_period 24x7

}

Step 2: mailx Configuration

Install mailx: yum install mailx -y

Configure SMTP: vim /etc/mail.rc

Put below lines in mail rc file:

set smtp=smtps://smtp.gmail.com:465

set smtp-auth=login

set smtp-auth-user=devendramauryamr33@gmail.com

set smtp-auth-password=secret_token_of_your_mail_server

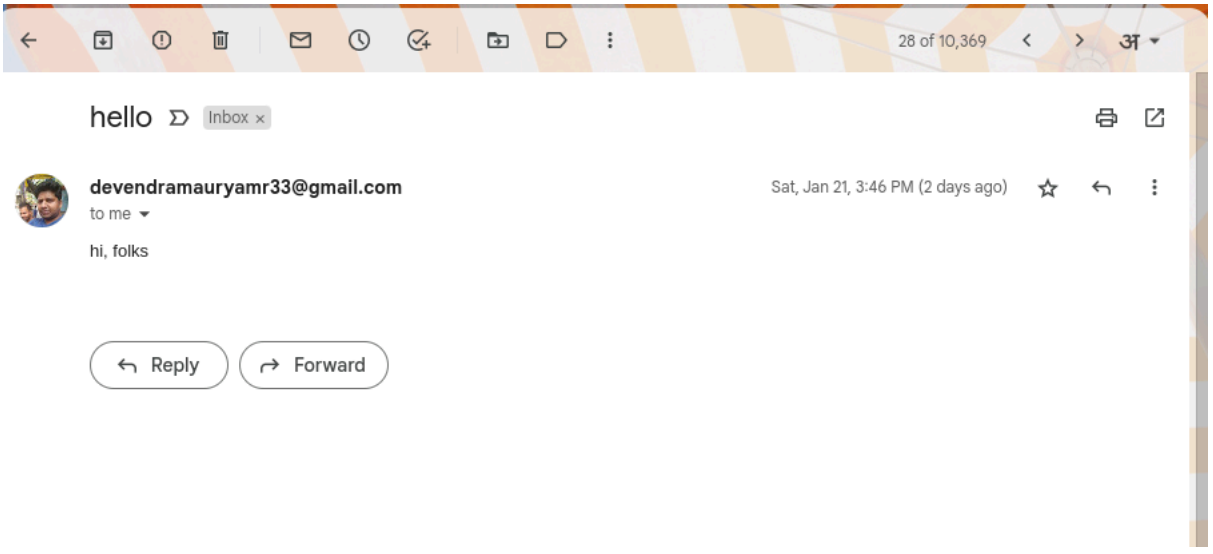
set ssl-verify=ignore

set nss-config-dir=/etc/pki/nssdb/

Test the mail is sending or not :

echo "hi, folks" | mail -v -s "hello" devendramauryamr33@gmail.com

You will get a hi message on your mail



Part 2: Automatic email alerting:

Step 1: *Install the below-mentioned dependencies on nagios server machine*

yum install mailx -y

yum install sendmail -y

yum install sendmail* -y

Step 2: *Edit vi /etc/hosts and mention below the code*

127.0.1.1 localhost.localdomain localhost

Step 3: *Edit vi /usr/local/nagios/etc/objects/contacts.cfg and mention below mentioned code*

```
define contact
    {
        contact_name                    nagiosadmin
        use                             generic-contact
        alias                           Nagios Admin
        email                           devendramauryamr33@gmail.com
        service_notification_period     24x7
        service_notification_options    w,u,c,r,f,s
        service_notification_commands   notify-service-by-email
        host_notification_period        24x7
        host_notification_options       d,u,r,f,s
        host_notification_commands      notify-host-by-email
    }
```

```
vim /usr/local/nagios/etc/servers/yourhost.cfg
        notifications_enabled           1
```

notification_period 24x7

notification_options d,u,r,f,s

notification_interval 120

contact_groups admins

contacts nagiosadmin

In each service add the following line as explained in the video

notifications_enabled 1

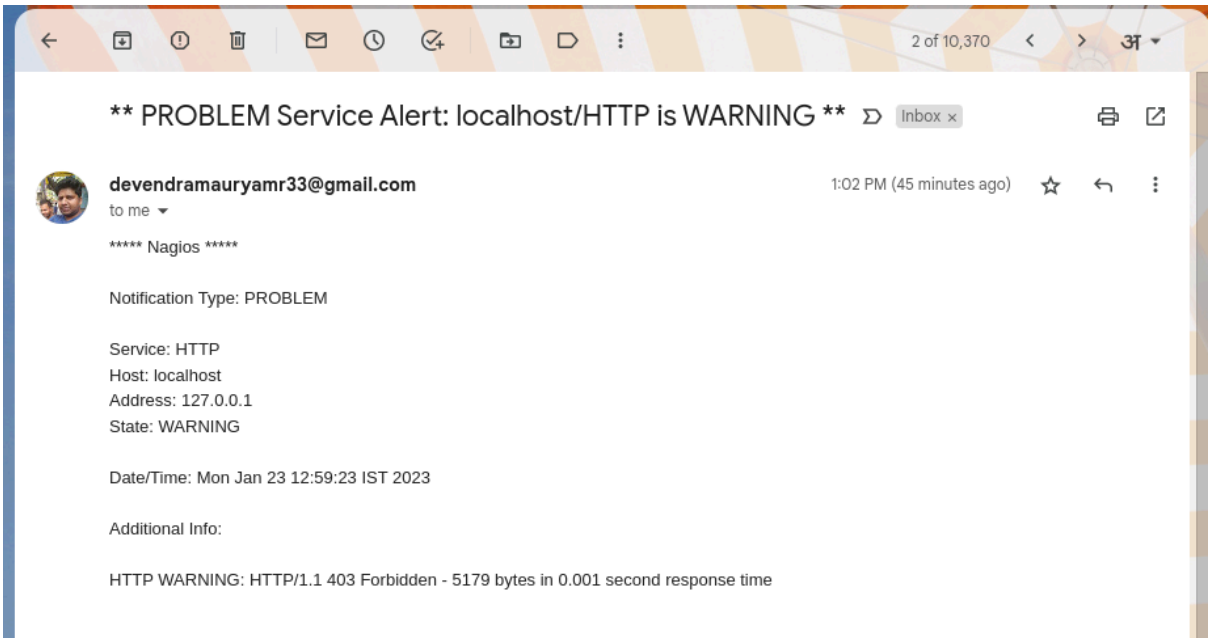
notification_period 24x7

notification_options w,u,c,r,f,s

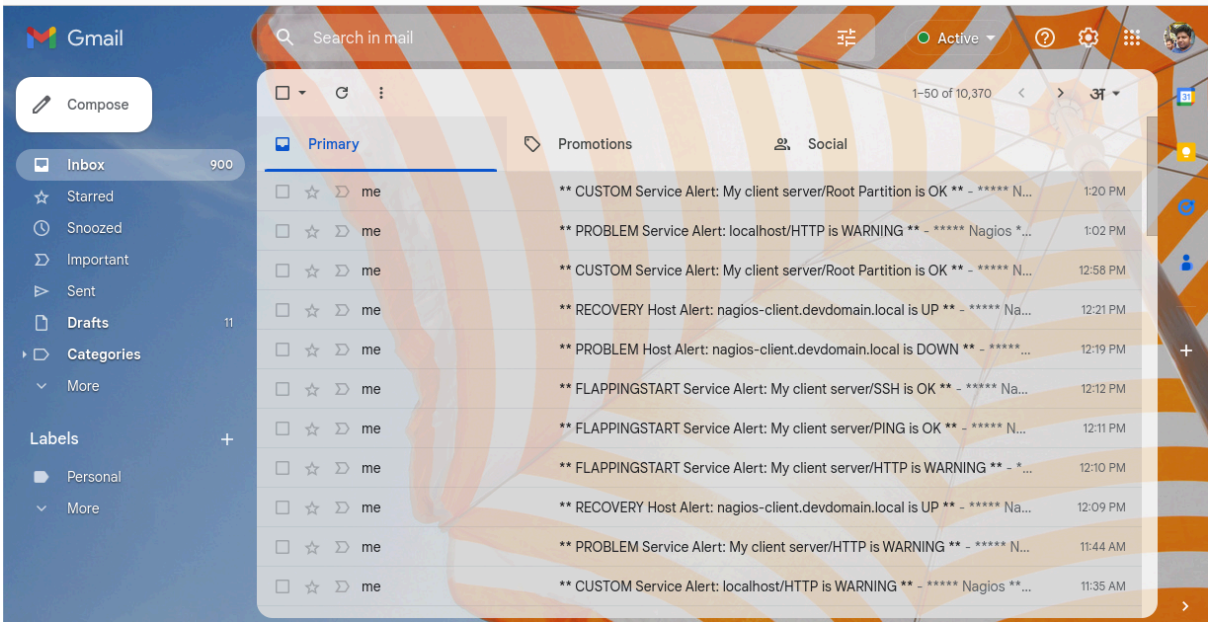
notification_interval 60

At last restart the Nagios service by the following command:

service nagios restart



These are mails i have received through different situations


Gmail
Search in mail
Active
Compose
1–50 of 10,370
Inbox 900
Starred
Snoozed
Important
Sent
Drafts 11
Categories
More
Labels
Personal
More
Primary
Promotions
Social
me ** CUSTOM Service Alert: My client server/Root Partition is OK ** - ***** N... 1:20 PM
me ** PROBLEM Service Alert: localhost/HTTP is WARNING ** - ***** Nagios *... 1:02 PM
me ** CUSTOM Service Alert: My client server/Root Partition is OK ** - ***** N... 12:58 PM
me ** RECOVERY Host Alert: nagios-client.devdomain.local is UP ** - ***** Na... 12:21 PM
me ** PROBLEM Host Alert: nagios-client.devdomain.local is DOWN ** - *****... 12:19 PM
me ** FLAPPINGSTART Service Alert: My client server/SSH is OK ** - ***** Na... 12:12 PM
me ** FLAPPINGSTART Service Alert: My client server/PING is OK ** - ***** N... 12:11 PM
me ** FLAPPINGSTART Service Alert: My client server/HTTP is WARNING ** - *... 12:10 PM
me ** RECOVERY Host Alert: nagios-client.devdomain.local is UP ** - ***** Na... 12:09 PM
me ** PROBLEM Service Alert: My client server/HTTP is WARNING ** - ***** N... 11:44 AM
me ** CUSTOM Service Alert: localhost/HTTP is WARNING ** - ***** Nagios **... 11:35 AM