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Roll no: 32

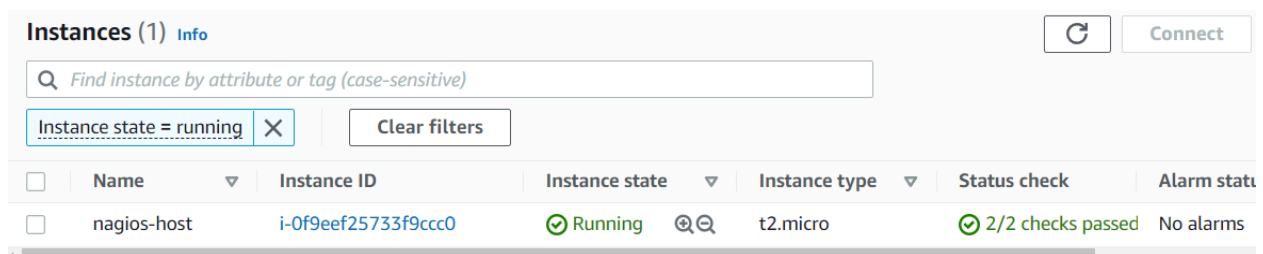
Sub: Advanced DevOps

Experiment No: 9

**Aim:** To Understand Continuous monitoring and Installation and configuration of Nagios Core, Nagios Plugins and NRPE (Nagios Remote Plugin Executor) on Linux Machine.

## Steps:

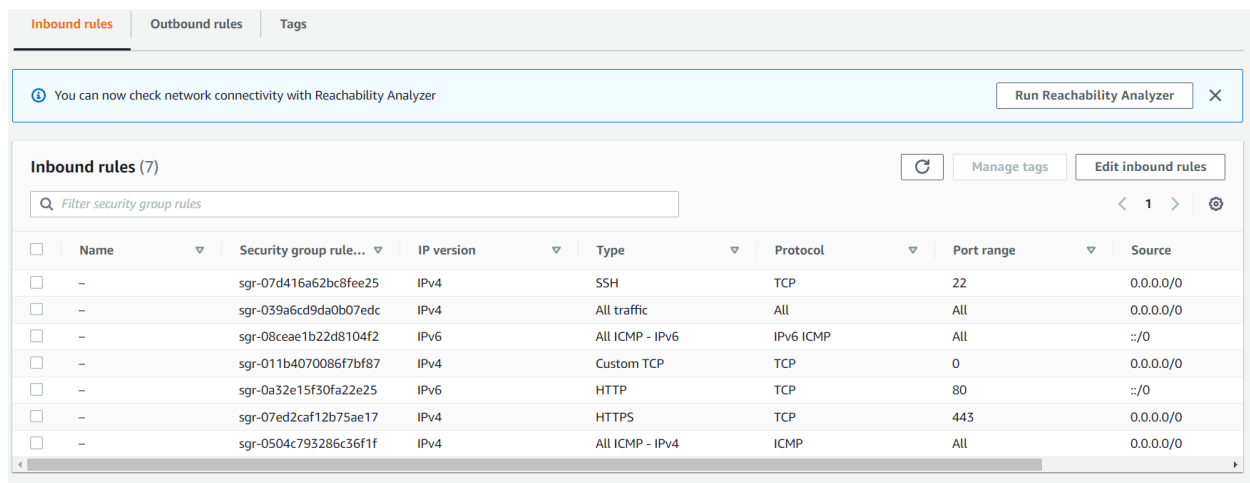
**Step 1: Create an Amazon Linux EC2 Instance in AWS and name it - nagios-host**



Instances (1) Info							Refresh	Connect
<input type="text" value="Find instance by attribute or tag (case-sensitive)"/>								
Instance state = running		Clear filters						
<input type="checkbox"/>	Name	Instance ID	Instance state	Instance type	Status check	Alarm status		
<input type="checkbox"/>	nagios-host	i-0f9eef25733f9ccc0	Running	t2.micro	2/2 checks passed	No alarms		

**Step 2. Under Security Group, make sure HTTP, HTTPS, SSH, ICMP are open from everywhere.**

You have to edit the inbound rules of the specified Security Group for this.



Inbound rules (7)									Refresh	Manage tags	Edit inbound rules
<input type="text" value="Filter security group rules"/>											
<input type="checkbox"/>	Name	Security group rule...	IP version	Type	Protocol	Port range	Source				
<input type="checkbox"/>	-	sgr-07d416a62bc8fee25	IPv4	SSH	TCP	22	0.0.0.0/0				
<input type="checkbox"/>	-	sgr-039a6cd9da0b07edc	IPv4	All traffic	All	All	0.0.0.0/0				
<input type="checkbox"/>	-	sgr-08ceae1b22d8104f2	IPv6	All ICMP - IPv6	IPv6 ICMP	All	::/0				
<input type="checkbox"/>	-	sgr-011b4070086f7bf87	IPv4	Custom TCP	TCP	0	0.0.0.0/0				
<input type="checkbox"/>	-	sgr-0a32e15f30fa22e25	IPv6	HTTP	TCP	80	::/0				
<input type="checkbox"/>	-	sgr-07ed2caf12b75ae17	IPv4	HTTPS	TCP	443	0.0.0.0/0				
<input type="checkbox"/>	-	sgr-0504c793286c36f1f	IPv4	All ICMP - IPv4	ICMP	All	0.0.0.0/0				

**Step 3. SSH into Your EC2 instance or simply use EC2 Instance Connect from the browser.**

```
  _ |  _ |  )  
  _ | (  _ /  Amazon Linux 2 AMI  
  _ |\_ |  _ |  
  
https://aws.amazon.com/amazon-linux-2/  
[ec2-user@ip-172-31-29-80 ~]$
```

**Step 4. Update the package indices and install the following packages using yum**

```
sudo yum update  
sudo yum install httpd php  
sudo yum install gcc glibc glibc-common  
sudo yum install gd gd-devel
```

**Step 5. Create a new Nagios User with its password. You'll have to enter the password twice for confirmation.**

```
sudo adduser -m nagios  
sudo passwd nagios
```

```
complete.  
[ec2-user@ip-172-31-29-80 ~]$ sudo adduser -m nagios  
[ec2-user@ip-172-31-29-80 ~]$ sudo passwd nagios  
Changing password for user nagios.  
New password:  
Retype new password:  
passwd: all authentication tokens updated successfully.  
[ec2-user@ip-172-31-29-80 ~]$
```

## Step 6. Create a new user group

```
sudo groupadd nagcmd
```

## Step 7. Use these commands so that you don't have to use sudo for Apache and Nagios

```
sudo usermod -a -G nagcmd nagios  
sudo usermod -a -G nagcmd apache
```

## Step 8. Create a new directory for Nagios downloads

```
mkdir ~/downloads  
cd ~/downloads
```

```
[ec2-user@ip-172-31-29-80 ~]$ mkdir ~/downloads  
[ec2-user@ip-172-31-29-80 ~]$ cd ~/downloads  
[ec2-user@ip-172-31-29-80 downloads]$ pwd  
/home/ec2-user/downloads
```

## Step 9. Use wget to download the source zip files.

```
wget http://prdownloads.sourceforge.net/sourceforge/nagios/nagios-4.0.8.tar.gz
```

```
[ec2-user@ip-172-31-29-80 downloads]$ http://prdownloads.sourceforge.net/sourceforge/nagios/nagios-4.0.8.tar.  
-bash: http://prdownloads.sourceforge.net/sourceforge/nagios/nagios-4.0.8.tar.: No such file or directory  
[ec2-user@ip-172-31-29-80 downloads]$ gz  
-bash: gz: command not found  
[ec2-user@ip-172-31-29-80 downloads]$ wget http://prdownloads.sourceforge.net/sourceforge/nagios/nagios-4.0.8.tar.gz  
--2022-10-07 18:37:56-- http://prdownloads.sourceforge.net/sourceforge/nagios/nagios-4.0.8.tar.gz  
Resolving prdownloads.sourceforge.net (prdownloads.sourceforge.net)... 204.68.111.105  
Connecting to prdownloads.sourceforge.net (prdownloads.sourceforge.net)|204.68.111.105|:80... connected.  
HTTP request sent, awaiting response... 301 Moved Permanently  
Location: http://downloads.sourceforge.net/project/nagios/nagios-4.x/nagios-4.0.8/nagios-4.0.8.tar.gz [following]  
--2022-10-07 18:37:56-- http://downloads.sourceforge.net/project/nagios/nagios-4.x/nagios-4.0.8/nagios-4.0.8.tar.gz  
Resolving downloads.sourceforge.net (downloads.sourceforge.net)... 204.68.111.105  
Reusing existing connection to prdownloads.sourceforge.net:80.  
HTTP request sent, awaiting response... 302 Found  
Location: http://cfhcable.dl.sourceforge.net/project/nagios/nagios-4.x/nagios-4.0.8/nagios-4.0.8.tar.gz [following]  
--2022-10-07 18:37:56-- http://cfhcable.dl.sourceforge.net/project/nagios/nagios-4.x/nagios-4.0.8/nagios-4.0.8.tar.gz  
Resolving cfhcable.dl.sourceforge.net (cfhcable.dl.sourceforge.net)... 146.71.73.6  
Connecting to cfhcable.dl.sourceforge.net (cfhcable.dl.sourceforge.net)|146.71.73.6|:80... connected.  
HTTP request sent, awaiting response... 200 OK  
Length: 1805059 (1.7M) [application/x-gzip]  
Saving to: 'nagios-4.0.8.tar.gz'
```

```
wget http://nagios-plugins.org/download/nagios-plugins-2.0.3.tar.gz
```

```
[ec2-user@ip-172-31-29-80 downloads]$ wget http://nagios-plugins.org/download/nagios-plugins-2.0.3.tar.gz
--2022-10-07 18:38:26-- http://nagios-plugins.org/download/nagios-plugins-2.0.3.tar.gz
Resolving nagios-plugins.org (nagios-plugins.org)... 45.56.123.251
Connecting to nagios-plugins.org (nagios-plugins.org)|45.56.123.251|:80... connected.
HTTP request sent, awaiting response... 200 OK
Length: 2659772 (2.5M) [application/x-gzip]
Saving to: 'nagios-plugins-2.0.3.tar.gz'

100%[=====]
2022-10-07 18:38:27 (8.76 MB/s) - 'nagios-plugins-2.0.3.tar.gz' saved [2659772/2659772]

[ec2-user@ip-172-31-29-80 downloads]$
```

**Step 10. Use tar to unzip and change to that directory.**

```
tar zxvf nagios-4.0.8.tar.gz
```

**Step 11. Run the configuration script with the same group name you previously created.**

```
./configure --with-command-group=nagcmd
```

```
[ec2-user@ip-172-31-29-80 nagios-4.0.8]$ ./configure --with-command-group=nagcmd
checking for a BSD-compatible install... /usr/bin/install -c
checking build system type... x86_64-unknown-linux-gnu
checking host system type... x86_64-unknown-linux-gnu
checking for gcc... gcc
checking for C compiler default output file name... a.out
checking whether the C compiler works... yes
checking whether we are cross compiling... no
checking for suffix of executables...
checking for suffix of object files... o
checking whether we are using the GNU C compiler... yes
checking whether gcc accepts -g... yes
checking for gcc option to accept ISO C89... none needed
checking whether make sets $(MAKE)... yes
checking for strip... /usr/bin/strip
checking how to run the C preprocessor... gcc -E
checking for grep that handles long lines and -e... /usr/bin/grep
```

**Step 12. Compile the source code.**

```
make all
```

```
*** Support Notes *****

If you have questions about configuring or running Nagios,
please make sure that you:

    - Look at the sample config files
    - Read the documentation on the Nagios Library at:
      http://library.nagios.com

before you post a question to one of the mailing lists.
Also make sure to include pertinent information that could
help others help you. This might include:

    - What version of Nagios you are using
    - What version of the plugins you are using
    - Relevant snippets from your config files
    - Relevant error messages from the Nagios log file

For more information on obtaining support for Nagios, visit:

    http://support.nagios.com

*****

Enjoy.
```

**Step 13. Install binaries, init script and sample config files. Lastly, set permissions on the external command directory.**

```
sudo make install
sudo make install-init
sudo make install-config
sudo make install-commandmode
```

**Step 14. Edit the config file and change the email address.**

```
sudo nano /usr/local/nagios/etc/objects/contacts.cfg
```

```

# Just one contact defined by default - the Nagios admin (that's you)
# This contact definition inherits a lot of default values from the 'generic-contact'
# template which is defined elsewhere.

define contact{
    contact_name      nagiosadmin          ; Short name of user
    use                generic-contact      ; Inherit default values from generic-contact template (defined above)
    alias              Nagios Admin         ; Full name of user

    email              hrishikumbhar156@gmail.com ; <<***** CHANGE THIS TO YOUR EMAIL ADDRESS *****
}

#####
#####
#
# CONTACT GROUPS
#
#####
#####

```

## Step 15. Configure the web interface.

```
sudo make install-webconf
```

```

[ec2-user@ip-172-31-29-80 nagios-4.0.8]$ sudo make install-webconf
/usr/bin/install -c -m 644 sample-config/httpd.conf /etc/httpd/conf.d/nagios.conf

*** Nagios/Apache conf file installed ***

[ec2-user@ip-172-31-29-80 nagios-4.0.8]$ 

```

## Step 16. Create a nagiosadmin account for nagios login along with password. You'll have to specify the password twice.

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

```

*** Nagios/Apache conf file installed ***

[ec2-user@ip-172-31-29-80 nagios-4.0.8]$ sudo htpasswd -c /usr/local/nagios/etc/htpasswd.users nagiosadmin
New password:
Re-type new password:
Adding password for user nagiosadmin
[ec2-user@ip-172-31-29-80 nagios-4.0.8]$ 

```

## Step 17. Restart Apache

```
sudo service httpd restart
```

```
Adding password for user nagiosadmin  
[ec2-user@ip-172-31-29-80 nagios-4.0.8]$ sudo service httpd restart  
Redirecting to /bin/systemctl restart httpd.service  
[ec2-user@ip-172-31-29-80 nagios-4.0.8]$
```

## Step 18. Go back to the downloads folder and unzip the plugins zip file.

```
cd ~/downloads
```

```
tar zxvf nagios-plugins-2.0.3.tar.gz
```

```
[ec2-user@ip-172-31-29-80 nagios-4.0.8]$ cd ~/downloads  
[ec2-user@ip-172-31-29-80 downloads]$ tar zxvf nagios-plugins-2.0.3.tar.gz  
nagios-plugins-2.0.3/  
nagios-plugins-2.0.3/perlmods/  
nagios-plugins-2.0.3/perlmods/Config-Tiny-2.14.tar.gz  
nagios-plugins-2.0.3/perlmods/parent-0.226.tar.gz  
nagios-plugins-2.0.3/perlmods/Test-Simple-0.98.tar.gz  
nagios-plugins-2.0.3/perlmods/Makefile.in  
nagios-plugins-2.0.3/perlmods/version-0.9903.tar.gz  
nagios-plugins-2.0.3/perlmods/Makefile.am  
nagios-plugins-2.0.3/perlmods/Module-Runtime-0.013.tar.gz  
nagios-plugins-2.0.3/perlmods/Module-Metadata-1.000014.tar.gz  
nagios-plugins-2.0.3/perlmods/Params-Validate-1.08.tar.gz  
nagios-plugins-2.0.3/perlmods/Class-Accessor-0.34.tar.gz  
nagios-plugins-2.0.3/perlmods/Try-Tiny-0.18.tar.gz  
nagios-plugins-2.0.3/perlmods/Module-Implementation-0.07.tar.gz  
nagios-plugins-2.0.3/perlmods/Makefile  
nagios-plugins-2.0.3/perlmods/Perl-OSType-1.003.tar.gz  
nagios-plugins-2.0.3/perlmods/install_order  
nagios-plugins-2.0.3/perlmods/Nagios-Plugin-0.36.tar.gz  
nagios-plugins-2.0.3/perlmods/Math-Calc-Units-1.07.tar.gz  
nagios-plugins-2.0.3/perlmods/Module-Build-0.4007.tar.gz  
nagios-plugins-2.0.3/ABOUT-NLS  
nagios-plugins-2.0.3/configure.ac  
nagios-plugins-2.0.3/Makefile.in  
nagios-plugins-2.0.3/config.h.in  
nagios-plugins-2.0.3/ChangeLog
```



## Step 19. Compile and install plugins

```
cd nagios-plugins-2.0.3
```

```
./configure --with-nagios-user=nagios --with-nagios-group=nagios
```

```
make
```

```
sudo make install
```

## Step 20. Start Nagios

Add Nagios to the list of system services

```
sudo chkconfig --add nagios  
sudo chkconfig nagios
```

on Verify the sample configuration files

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

If there are no errors, you can go ahead and start Nagios.

```
sudo service nagios start
```

```
Things look okay - No serious problems were detected during the pre-flight check  
[ec2-user@ip-172-31-29-80 nagios-plugins-2.0.3]$ sudo service nagios start  
Starting nagios (via systemctl): [ OK ]  
[ec2-user@ip-172-31-29-80 nagios-plugins-2.0.3]$
```

## Step 21. Check the status of Nagios

```
sudo systemctl status nagios
```

```
[ec2-user@ip-172-31-29-80 nagios-plugins-2.0.3]$ sudo systemctl status nagios
● nagios.service - LSB: Starts and stops the Nagios monitoring server
   Loaded: loaded (/etc/rc.d/init.d/nagios; bad; vendor preset: disabled)
   Active: active (running) since Fri 2022-10-07 19:12:31 UTC; 40s ago
     Docs: man:systemd-sysv-generator(8)
  Process: 26732 ExecStart=/etc/rc.d/init.d/nagios start (code=exited, status=0/SUCCESS)
    CGroup: /system.slice/nagios.service
            └─26753 /usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg
              └─26755 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
                └─26756 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
                  └─26757 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
                    └─26758 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
                      └─26759 /usr/local/nagios/bin/nagios -d /usr/local/nagios/etc/nagios.cfg

Oct 07 19:12:31 ip-172-31-29-80.ec2.internal nagios[26753]: nerd: Channel hostchecks registered successfully
Oct 07 19:12:31 ip-172-31-29-80.ec2.internal nagios[26753]: nerd: Channel servicechecks registered successfully
Oct 07 19:12:31 ip-172-31-29-80.ec2.internal nagios[26753]: nerd: Channel opathchecks registered successfully
Oct 07 19:12:31 ip-172-31-29-80.ec2.internal nagios[26753]: nerd: Fully initialized and ready to rock!
Oct 07 19:12:31 ip-172-31-29-80.ec2.internal nagios[26753]: wproc: Successfully registered manager as @wproc with query ha
Oct 07 19:12:31 ip-172-31-29-80.ec2.internal nagios[26753]: wproc: Registry request: name=Core Worker 26758;pid=26758
Oct 07 19:12:31 ip-172-31-29-80.ec2.internal nagios[26753]: wproc: Registry request: name=Core Worker 26757;pid=26757
Oct 07 19:12:31 ip-172-31-29-80.ec2.internal nagios[26753]: wproc: Registry request: name=Core Worker 26756;pid=26756
Oct 07 19:12:31 ip-172-31-29-80.ec2.internal nagios[26753]: wproc: Registry request: name=Core Worker 26755;pid=26755
Oct 07 19:12:32 ip-172-31-29-80.ec2.internal nagios[26753]: Successfully launched command file worker with pid 26759
[ec2-user@ip-172-31-29-80 nagios-plugins-2.0.3]$
```

## Step 22. Go back to EC2 Console and copy the Public IP address of this instance

### Instance summary for i-0f9eef25733f9ccc0 (nagios-host)

[Info](#)

Updated less than a minute ago

Instance ID

 i-0f9eef25733f9ccc0 (nagios-host)

IPv6 address

—

Public IPv4 address

 54.164.157.242 | [open address](#) 

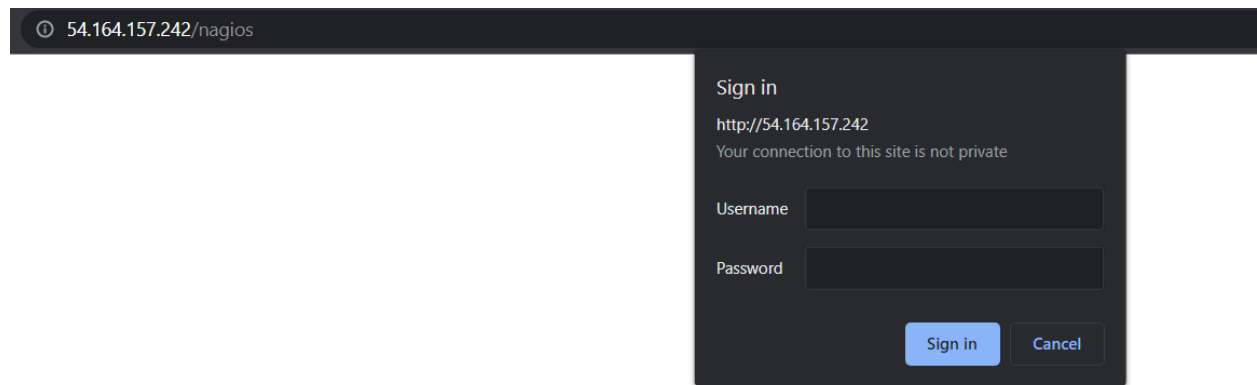
Instance state

 Running

**Step 23. Open up your browser and look for**

**http://<your\_public\_IP\_address>/nagios**

Enter username as nagiosadmin and password which you set in Step 16



**Step 24. After entering the correct credentials, you will see this page.**

← → ↻ ⚠ Not secure | 54.164.157.242/nagios/

# Nagios®

**General**  
Home  
Documentation

**Current Status**  
Tactical Overview  
Map  
Hosts  
Services  
Host Groups  
Summary  
Grid  
Service Groups  
Summary  
Grid  
Problems  
Services (Unhandled)  
Hosts (Unhandled)  
Network Outages  
Quick Search:

**Reports**  
Availability  
Trends  
Alerts  
History  
Summary  
Histogram  
Notifications  
Event Log

**System**  
Comments  
Downtime  
Process Info  
Performance Info  
Scheduling Queue  
Configuration

# Nagios® Core™

✓ Daemon running with PID 26753

**Nagios® Core™**  
**Version 4.0.8**  
August 12, 2014  
[Check for updates](#)

**A new version of Nagios Core is available!**  
Visit [nagios.org](http://nagios.org) to download Nagios 4.4.8.

**Nagios XI**  
Easy Configuration  
Advanced Reporting  
[Download](#)

**Nagios Log Server**  
Monitor and analyze  
logs from anywhere  
[Download](#)

**Nagios Network Analyzer**  
Real-time netflow and  
bandwidth analysis  
[Download](#)

### Get Started

- Start monitoring your infrastructure
- Change the look and feel of Nagios
- Extend Nagios with hundreds of addons
- Get support
- Get training
- Get certified

### Quick Links

- [Nagios Library](#) (tutorials and docs)
- [Nagios Labs](#) (development blog)
- [Nagios Exchange](#) (plugins and addons)
- [Nagios Support](#) (tech support)
- [Nagios.com](#) (company)
- [Nagios.org](#) (project)

### Latest News

- Nagios Update: XI 5.6.6
- Nagios Update: XI 5.6.5
- Nagios Update: XI 5.6.4
- [More news...](#)

### Don't Miss...

- **Monitoring Log Data with Nagios** - [Nagios Log Server](#) can handle all log data in one central location.
- **Can Nagios monitor netflow?** - **Yes!** Nagios Network Analyzer can take in a variety of flow data. [Learn More](#)
- **Nagios XI 5 Available Now!** - Easier configuration, Advanced Reporting,

This means that Nagios was correctly installed and configured with its plugins so far.

## Conclusion:

Thus, we learned about Nagios and successfully set it up as a host on our Amazon Linux machine.