

## Steps

- 1) Create Amazon linux EC2 instance with rsa key pair and security group with all inbound rules as shown below

The screenshot shows the AWS Management Console interface. At the top, there's a navigation bar with the AWS logo, 'Services', a search bar, and user information. Below this, the 'Instances (1/3)' page is displayed. A table lists the instance 'nagios-host3' with ID 'i-08da794670e4dd659', state 'Running', type 't2.micro', and availability zone 'us-east-1a'. Below the table, the 'Inbound rules' section is expanded, showing a table of security group rules. The rules include ports 80, 443, and 22, all with source '0.0.0.0/0'. The 'Outbound rules' section is also visible but empty.

Name	Security group rule ID	Port range	Protocol	Source	Security
-	sgr-0c7eb13506573047f	80	TCP	::/0	<a href="#">exp9adv</a>
-	sgr-0bc5ce47301b78c0d	443	TCP	0.0.0.0/0	<a href="#">exp9adv</a>
-	sgr-04d226c56979a87c3	All	ICMP	0.0.0.0/0	<a href="#">exp9adv</a>
-	sgr-0a3c70cd877cc1f40	All	All	0.0.0.0/0	<a href="#">exp9adv</a>
-	sgr-0c6da54e2bb7ffb94	All	ICMPV6	::/0	<a href="#">exp9adv</a>
-	sgr-03a0e07a3b3c405e7	5666	TCP	0.0.0.0/0	<a href="#">exp9adv</a>
-	sgr-061bcb27e02d7a704	22	TCP	0.0.0.0/0	<a href="#">exp9adv</a>

The screenshot shows the 'Connect to instance' page in the AWS Management Console. The page title is 'Connect to instance' with an 'Info' link. Below the title, it says 'Connect to your instance i-08da794670e4dd659 (nagios-host3) using any of these options'. There are four tabs: 'EC2 Instance Connect', 'Session Manager', 'SSH client', and 'EC2 serial console'. The 'SSH client' tab is selected. It shows the instance ID 'i-08da794670e4dd659 (nagios-host3)' and a list of steps to connect via SSH. An example command is provided: `ssh -i "exp9advdev.pem" ec2-user@ec2-54-161-100-22.compute-1.amazonaws.com`. A note at the bottom states: 'Note: In most cases, the guessed username is correct. However, read your AMI usage instructions to check if the AMI owner has changed the default AMI username.' A 'Cancel' button is at the bottom right.

EC2 Instance Connect | Session Manager | **SSH client** | EC2 serial console

Instance ID  
i-08da794670e4dd659 (nagios-host3)

1. Open an SSH client.
2. Locate your private key file. The key used to launch this instance is exp9advdev.pem
3. Run this command, if necessary, to ensure your key is not publicly viewable.  
`chmod 400 "exp9advdev.pem"`
4. Connect to your instance using its Public DNS:  
`ec2-54-161-100-22.compute-1.amazonaws.com`

Example:  
`ssh -i "exp9advdev.pem" ec2-user@ec2-54-161-100-22.compute-1.amazonaws.com`

**Note:** In most cases, the guessed username is correct. However, read your AMI usage instructions to check if the AMI owner has changed the default AMI username.

Cancel

- 2) Go the directory folder that contains the rsa key
- 3) `ssh -i "exp9advdev.pem" ec2-user@ec2-54-161-100-22.compute-1.amazonaws.com`

```

ASUS@LAPTOP-O38NG844 MINGW64 ~
$ cd C:\keyAdvDevOpsExp9

ASUS@LAPTOP-O38NG844 MINGW64 /c/keyAdvDevOpsExp9
$ ec2-54-161-100-22.compute-1.amazonaws.com
bash: ec2-54-161-100-22.compute-1.amazonaws.com: command not found

ASUS@LAPTOP-O38NG844 MINGW64 /c/keyAdvDevOpsExp9
$ ssh -i "exp9advdev.pem" ec2-user@ec2-54-161-100-22.compute-1.amazonaws.com
The authenticity of host 'ec2-54-161-100-22.compute-1.amazonaws.com (54.161.100.22)' can't be established.
ED25519 key fingerprint is SHA256:fe9wxwksYueYFST/W6vuiXHC4Y9/oebau6COCKO6qfk.
This host key is known by the following other names/addresses:
  ~/.ssh/known_hosts:6: 54.161.100.22
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'ec2-54-161-100-22.compute-1.amazonaws.com' (ED25519)
to the list of known hosts.

#_
~\##### Amazon Linux 2023
~~\#####\
~~\###|
~~\#/
~~V~'-'> https://aws.amazon.com/linux/amazon-linux-2023
~~~
~~~.-.-
~~~/_/

```

- 4) `sudo yum update`
- 5) `sudo yum install httpd php`
- 6) `sudo yum install gcc glibc glibc-common`
- 7) `sudo yum install gd-gd-devel`

```

[ec2-user@ip-172-31-39-112 ~]$ sudo yum update
Last metadata expiration check: 0:29:10 ago on wed Oct  2 06:24:18 2024.
Dependencies resolved.
Nothing to do.
Complete!
[ec2-user@ip-172-31-39-112 ~]$ sudo yum install httpd php
Last metadata expiration check: 0:29:24 ago on wed Oct  2 06:24:18 2024.
Dependencies resolved.

```

Package	Arch	Version	Repository	Size
Installing:				
httpd	x86_64	2.4.62-1.amzn2023	amazonlinux	48 k
php8.3	x86_64	8.3.10-1.amzn2023.0.1	amazonlinux	10 k
Installing dependencies:				
apr	x86_64	1.7.2-2.amzn2023.0.2	amazonlinux	129 k

```
[ec2-user@ip-172-31-39-112 ~]$ sudo yum install gcc glibc glibc-common
Last metadata expiration check: 0:29:53 ago on Wed Oct 2 06:24:18 2024.
Package glibc-2.34-52.amzn2023.0.11.x86_64 is already installed.
Package glibc-common-2.34-52.amzn2023.0.11.x86_64 is already installed.
Dependencies resolved.
```

Package	Arch	Version	Repository	Size
Installing:				
gcc	x86_64	11.4.1-2.amzn2023.0.2	amazonlinux	32 M
Installing dependencies:				

```
[ec2-user@ip-172-31-39-112 ~]$ sudo yum install gd gd-devel
Last metadata expiration check: 0:30:18 ago on Wed Oct 2 06:24:18 2024.
Dependencies resolved.
```

Package	Arch	Version	Repository	Size
Installing:				
gd	x86_64	2.3.3-5.amzn2023.0.3	amazonlinux	139 k
gd-devel	x86_64	2.3.3-5.amzn2023.0.3	amazonlinux	28 k

- 8) sudo adduser -m nagios
- 9) sudo passwd nagios
- 10) sudo groupadd nagcmd
- 11) sudo usermod -a -G nagcmd nagios
- 12) sudo usermod -a -G nagcmd apache
- 13) mkdir downloads
- 14) cd downloads
- 15) wget <http://prdownloads.sourceforge.net/sourceforge/nagios/nagios-4.0.8.tar.gz>
- 16) wget <http://nagios-plugins.org/download/nagios-plugins-2.0.3.tar.gz>
- 17) tar zxvf nagios-4.0.8.tar.gz

```
[ec2-user@ip-172-31-39-112 ~]$ sudo adduser -m nagios
[ec2-user@ip-172-31-39-112 ~]$ sudo passwd nagios
Changing password for user nagios.
New password:
Retype new password:
passwd: all authentication tokens updated successfully.
[ec2-user@ip-172-31-39-112 ~]$ sudo groupadd nagcmd
[ec2-user@ip-172-31-39-112 ~]$ sudo usermod -a -G nagcmd nagios
[ec2-user@ip-172-31-39-112 ~]$ sudo usermod -a -G nagcmd apache
[ec2-user@ip-172-31-39-112 ~]$ mkdir downloads
[ec2-user@ip-172-31-39-112 ~]$ cd downloads
[ec2-user@ip-172-31-39-112 downloads]$ wget http://prdownloads.sourceforge.net/sourceforge/nagios/nagios-4.0.8.tar.gz
--2024-10-02 06:58:59-- http://prdownloads.sourceforge.net/sourceforge/nagios/nagios-4.0.8.tar.gz
```

```
[ec2-user@ip-172-31-39-112 downloads]$ wget http://nagios-plugins.org/download/nagios-plugins-2.0.3.tar.gz
--2024-10-02 07:00:47-- 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.
```

18) cd nagios-4.0.3

19). /configure --with-command-group=nagcmd

```
[ec2-user@ip-172-31-39-112 downloads]$ cd nagios-4.0.8
[ec2-user@ip-172-31-39-112 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
```

20) make all

```
[ec2-user@ip-172-31-39-112 nagios-4.0.8]$ make all
cd ./base && make
make[1]: Entering directory '/home/ec2-user/downloads/nagios-4.0.8/base'
gcc -Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCORE -c -o nagios.o nagios.c
gcc -Wall -I.. -g -O2 -DHAVE_CONFIG_H -DNSCORE -c -o broker.o broker.c
```

21) sudo make install

22) sudo make install-init

23) sudo make install-config

24) sudo make install-commandmode

```
@ip-172-31-39-112 nagios-4.0.8]$ sudo make install
&& make install
Entering directory '/home/ec2-user/downloads/nagios-4.0.8/base'
all-basic
```

```
[ec2-user@ip-172-31-39-112 nagios-4.0.8]$ sudo make install-init
/usr/bin/install -c -m 755 -d -o root -g root /etc/rc.d/init.d
/usr/bin/install -c -m 755 -o root -g root daemon-init /etc/rc.d/init.d/nagios
*** Init script installed ***
```

```
[ec2-user@ip-172-31-39-112 nagios-4.0.8]$ sudo make install-config
/usr/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/etc
/usr/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/etc/objects
```

```
[ec2-user@ip-172-31-39-112 nagios-4.0.8]$ sudo make install-commandmode
/usr/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/var/rw
chmod g+s /usr/local/nagios/var/rw

*** External command directory configured ***

[ec2-user@ip-172-31-39-112 nagios-4.0.8]$ sudo nano /usr/local/nagios/etc/object
s/contacts.cfg
[ec2-user@ip-172-31-39-112 nagios-4.0.8]$ sudo make install-webconf
/usr/bin/install -c -m 644 sample-config/httpd.conf /etc/httpd/conf.d/nagios.con
f
```

- 25) sudo nano /usr/local/nagios/etc/objects/contacts.cfg  
After running this command add your email address in define contact function
- 26) sudo make install-webconf
- 27) sudo htpasswd -c /usr/local/nagios/etc/htpasswd.users nagiosadmin
- 28) sudo service httpd restart
- 29) cd ~/downloads/
- 30) tar zxvf nagios-plugins-2.e.3.tar.gz

```
[ec2-user@ip-172-31-39-112 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-172-31-39-112 nagios-4.0.8]$ sudo service httpd restart
Redirecting to /bin/systemctl restart httpd.service
[ec2-user@ip-172-31-39-112 nagios-4.0.8]$ cd ~/downloads/
[ec2-user@ip-172-31-39-112 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
```

- 32) cd nagios-plugins-2.0.3
- 33) ./configure --with-nagios-user=nagios --with-nagios-group=nagios

```
[ec2-user@ip-172-31-39-112 nagios-plugins-2.0.3]$ ./configure --with-nagios-user
=nagios --with-nagios-group=nagios
checking for a BSD-compatible install... /usr/bin/install -c
checking whether build environment is sane... yes
checking for a thread-safe mkdir -p... /usr/bin/mkdir -p
checking for gawk... gawk
checking whether make sets $(MAKE) ... yes
```

- 34) sudo make install

```
[ec2-user@ip-172-31-39-112 nagios-plugins-2.0.3]$ sudo make install
Making install in gl
make[1]: Entering directory '/home/ec2-user/downloads/nagios-plugins-2.0.3/gl'
rm -f alloca.h-t alloca.h && \
{ echo '/* DO NOT EDIT! GENERATED AUTOMATICALLY! */'; \
  cat ./alloca.in.h; \
} > alloca.h-t && \
```

- 35) sudo chkconfig --add nagios
- 36) sudo chkconfig nagios on
- 37) sudo /usr/local/nagios/bin/nagios -v /usr/local/nagios/etc/nagios.cfg

```
[ec2-user@ip-172-31-39-112 nagios-plugins-2.0.3]$ sudo chkconfig --add nagios
[ec2-user@ip-172-31-39-112 nagios-plugins-2.0.3]$ sudo chkconfig nagios on
[ec2-user@ip-172-31-39-112 nagios-plugins-2.0.3]$ sudo /usr/local/nagios/bin/nagios -v /usr/local/nagios/etc/nagios.cfg
```

Nagios Core 4.0.8

Copyright (c) 2000-present Nagios Core Development Team and Community Contributors

- 38) sudo nano /usr/local/nagios/etc/nagios.cfg
- 39) sudo chown -R nagios:nagios /usr/local/nagios

```
[ec2-user@ip-172-31-39-112 nagios-plugins-2.0.3]$ sudo nano /usr/local/nagios/etc/nagios.cfg
[ec2-user@ip-172-31-39-112 nagios-plugins-2.0.3]$ sudo chown -R nagios:nagios /usr/local/nagios
```

- 40) ls /usr/local/nagios/bin/
- 41) sudo /usr/local/nagios/bin/nagios /usr/local/nagios/etc/nagios.cfg

- 42) sudo nano /etc/systemd/system/nagios.service

After this command add below code in the blank window

```
[Unit]
Description=Nagios Service
After=network.target

[Service]
User=nagios
Group=nagios
ExecStart=/usr/local/nagios/bin/nagios /usr/local/nagios/etc/nagios.cfg

[Install]
WantedBy=multi-user.target
```

```
[ec2-user@ip-172-31-39-112 nagios-plugins-2.0.3]$ ls /usr/local/nagios/bin/
nagios nagiosstats
[ec2-user@ip-172-31-39-112 nagios-plugins-2.0.3]$ sudo /usr/local/nagios/bin/nagios /usr/local/nagios/etc/nagios.cfg
```

```
[ec2-user@ip-172-31-39-112 nagios-plugins-2.0.3]$ sudo nano /etc/systemd/system/nagios.service
[ec2-user@ip-172-31-39-112 nagios-plugins-2.0.3]$
```

- 43) sudo yum update
- 44) sudo yum install httpd php

```
[ec2-user@ip-172-31-39-112 ~]$ sudo yum update
Last metadata expiration check: 0:29:10 ago on Wed Oct 2 06:24:18 2024.
dependencies resolved.
Nothing to do.
complete!
[ec2-user@ip-172-31-39-112 ~]$ sudo yum install httpd php
Last metadata expiration check: 0:29:24 ago on Wed Oct 2 06:24:18 2024.
dependencies resolved.
```

- 45) sudo systemctl daemon-reload
- 46) sudo systemctl start nagios
- 47) sudo systemctl enable nagios
- 48) sudo service nagios start

```
[ec2-user@ip-172-31-39-112 nagios-plugins-2.0.3]$ sudo systemctl daemon-reload
[ec2-user@ip-172-31-39-112 nagios-plugins-2.0.3]$ sudo systemctl start nagios
[ec2-user@ip-172-31-39-112 nagios-plugins-2.0.3]$ sudo systemctl enable nagios
Synchronizing state of nagios.service with SysV service script with /usr/lib/systemd/systemd-sysd
stall.
Executing: /usr/lib/systemd/systemd-sysv-install enable nagios
Created symlink /etc/systemd/system/multi-user.target.wants/nagios.service → /etc/systemd/syste
ios.service.
[ec2-user@ip-172-31-39-112 nagios-plugins-2.0.3]$ sudo service nagios start
Starting nagios (via systemctl): [ OK ]
[ec2-user@ip-172-31-39-112 nagios-plugins-2.0.3]$
```