How to install Nexus 3 in Centos 7/ Amazon Linux

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In this session, we are going to discuss how to install Nexus 3 in Centos 7 / Amazon linux.

Prerequisites:

- Your user must have sudo privileges to be able to install the packages.
- Minimum 2 VCPU & 4 GB Memory

Step 1: Install OpenJDK 8 in CentOS 7

```
[root@ip-172-31-17-103 ~]# sudo yum install java-1.8.0-devel -y
```

Output:

```
[root@ip-172-31-89-37 ~]# yum install  java-1.8.0-openjdk-devel -y
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
amzn2-core                                                               | 3.7 kB  00:00:00
Resolving Dependencies
--> Running transaction check
---> Package java-1.8.0-openjdk-devel.x86_64 1:1.8.0.332.b09-1.amzn2.0.2 will be installed
--> Processing Dependency: java-1.8.0-openjdk(x86-64) = 1:1.8.0.332.b09-1.amzn2.0.2 for package: 1:java-1.8.0-openjdk
-devel-1.8.0.332.b09-1.amzn2.0.2.x86_64
--> Processing Dependency: libjvm.so()(64bit) for package: 1:java-1.8.0-openjdk-devel-1.8.0.332.b09-1.amzn2.0.2.x86_6
4
--> Processing Dependency: libjava.so()(64bit) for package: 1:java-1.8.0-openjdk-devel-1.8.0.332.b09-1.amzn2.0.2.x86_
64
--> Processing Dependency: libX11.so.6()(64bit) for package: 1:java-1.8.0-openjdk-devel-1.8.0.332.b09-1.amzn2.0.2.x86
_64
--> Running transaction check
---> Package java-1.8.0-openjdk.x86_64 1:1.8.0.332.b09-1.amzn2.0.2 will be installed
```

Step 1.1: Check whether java is installed or not using the below command.

```
[root@ip-172-31-17-103 ~]# sudo java -version
```

Output:

```
[root@ip-172-31-89-37 ~]# java -version
openjdk version "1.8.0_332"
OpenJDK Runtime Environment (build 1.8.0_332-b09)
OpenJDK 64-Bit Server VM (build 25.332-b09, mixed mode)
[root@ip-172-31-89-37 ~]#
```

Step 2: Download the latest nexus 3 version under **/opt** directory from the official page.

```
[root@ip-172-31-17-103 opt]# sudo wget https://download.sonatype.com/nexus/3/nexus-3.41.1-01-unix.tar.gz
```

Output:

```
[root@ip-172-31-17-103 ~]# cd /opt/
[root@ip-172-31-17-103 opt]# pwd
/opt
[root@ip-172-31-17-103 opt]# wget https://download.sonatype.com/nexus/3/nexus-3.41.1-01-unix.tar.gz
--2022-08-28 15:07:11--  https://download.sonatype.com/nexus/3/nexus-3.41.1-01-unix.tar.gz
Resolving download.sonatype.com (download.sonatype.com)... 54.67.2.251, 13.57.107.30
Connecting to download.sonatype.com (download.sonatype.com)|54.67.2.251|:443... connected.
HTTP request sent, awaiting response... 302 Moved Temporarily
Location: https://sonatype-download.global.ssl.fastly.net/repository/downloads-prod-group/3/nexus-3.41.1-01-unix.tar.gz [following]
--2022-08-28 15:07:11--  https://sonatype-download.global.ssl.fastly.net/repository/downloads-prod-group/3/nexus-3.41.1-01-unix.tar.gz
Resolving sonatype-download.global.ssl.fastly.net (sonatype-download.global.ssl.fastly.net)... 146.75.33.194
Connecting to sonatype-download.global.ssl.fastly.net (sonatype-download.global.ssl.fastly.net)|146.75.33.194|:443...
 connected.
HTTP request sent, awaiting response... 200 OK
Length: 216470874 (206M) [application/x-gzip]
Saving to: 'nexus-3.41.1-01-unix.tar.gz'

100%[=======================================================================>] 216,470,874  295MB/s   in 0.7s

2022-08-28 15:07:12 (295 MB/s) - 'nexus-3.41.1-01-unix.tar.gz' saved [216470874/216470874]

[root@ip-172-31-17-103 opt]#
```

Step 3: Extract the downloaded archive file using following commands.

```
[root@ip-172-31-17-103 opt]# sudo tar -xvf nexus-3.41.1-01-unix.tar.gz
```

Output:

```
[root@ip-172-31-17-103 opt]# tar -xvf nexus-3.41.1-01-unix.tar.gz
nexus-3.41.1-01/.install4j/9d17dc87.lprop
nexus-3.41.1-01/.install4j/MessagesDefault
nexus-3.41.1-01/.install4j/build.uuid
nexus-3.41.1-01/.install4j/e4ada6b7.lprop
nexus-3.41.1-01/.install4j/i4j_extf_0_17is1ik.utf8
nexus-3.41.1-01/.install4j/i4j_extf_10_17is1ik_10358jn.png
nexus-3.41.1-01/.install4j/i4j_extf_11_17is1ik_1gne9sv.png
nexus-3.41.1-01/.install4j/i4j_extf_12_17is1ik_sc8j43.png
nexus-3.41.1-01/.install4j/i4j_extf_13_17is1ik_10nxrsm.png
nexus-3.41.1-01/.install4j/i4j_extf_14_17is1ik_yd7am4.png
nexus-3.41.1-01/.install4j/i4j_extf_15_17is1ik_vu6hgs.png
```

When we extracted the tar file. 2 files will be generated.

```
[root@ip-172-31-17-103 opt]# ll
total 211400
drwxr-xr-x  4 root root        33 Aug 15 20:22 aws
drwxr-xr-x 10 root root       181 Aug 28 15:10 nexus-3.41.1-01
-rw-r--r--  1 root root 216470874 Aug 19 10:47 nexus-3.41.1-01-unix.tar.gz
drwxr-xr-x  2 root root         6 Aug 16  2018 rh
drwxr-xr-x  3 root root        20 Aug 28 15:10 sonatype-work
[root@ip-172-31-17-103 opt]#
```

Step 4: Now rename the nexus folder using below command

```
[root@ip-172-31-17-103 opt]# sudo mv nexus-3.41.1-01 nexus
```

Output:

```
[root@ip-172-31-17-103 opt]# sudo mv nexus-3.41.1-01 nexus
[root@ip-172-31-17-103 opt]# ll
total 211400
drwxr-xr-x  4 root root        33 Aug 15 20:22 aws
drwxr-xr-x 10 root root       181 Aug 28 15:10 nexus
-rw-r--r--  1 root root 216470874 Aug 19 10:47 nexus-3.41.1-01-unix.tar.gz
drwxr-xr-x  2 root root         6 Aug 16  2018 rh
drwxr-xr-x  3 root root        20 Aug 28 15:10 sonatype-work
[root@ip-172-31-17-103 opt]#
[root@ip-172-31-17-103 opt]#
```

Step 5: As a good security practice, it is not recommended to run nexus service with root privileges. So create a new user named nexus to run the nexus service.

Step 5.1: First create the nexus user using below command

[root@ip-172-31-17-103 opt]# sudo adduser nexus
(Or)
[root@ip-172-31-17-103 opt]# sudo useradd nexus

Output:

```
[root@ip-172-31-17-103 opt]# adduser nexus
[root@ip-172-31-17-103 opt]# id nexus
uid=1001(nexus) gid=1001(nexus) groups=1001(nexus)
[root@ip-172-31-17-103 opt]#
[root@ip-172-31-17-103 opt]#
```

Step 5.2: Check whether user is created or not using id command

[root@ip-172-31-17-103 opt]# sudo id nexus

Step 5.3: Change the ownership of **nexus** and **sonatype-work** directory

```
[root@ip-172-31-17-103 opt]# sudo chown -R nexus:nexus nexus
[root@ip-172-31-17-103 opt]# sudo chown -R nexus:nexus sonatype-work/
```

Output:

```
[root@ip-172-31-17-103 opt]# ll
total 211400
drwxr-xr-x  4 root root        33 Aug 15 20:22 aws
drwxr-xr-x 10 root root       181 Aug 28 15:10 nexus
-rw-r--r--  1 root root 216470874 Aug 19 10:47 nexus-3.41.1-01-unix.tar.gz
drwxr-xr-x  2 root root         6 Aug 16  2018 rh
drwxr-xr-x  3 root root        20 Aug 28 15:10 sonatype-work
[root@ip-172-31-17-103 opt]#
[root@ip-172-31-17-103 opt]# chown -R nexus:nexus nexus
[root@ip-172-31-17-103 opt]# chown -R nexus:nexus sonatype-work/
[root@ip-172-31-17-103 opt]#
[root@ip-172-31-17-103 opt]# ll
total 211400
drwxr-xr-x  4 root  root         33 Aug 15 20:22 aws
drwxr-xr-x 10 nexus nexus       181 Aug 28 15:10 nexus
-rw-r--r--  1 root  root  216470874 Aug 19 10:47 nexus-3.41.1-01-unix.tar.gz
drwxr-xr-x  2 root  root          6 Aug 16  2018 rh
drwxr-xr-x  3 nexus nexus        20 Aug 28 15:10 sonatype-work
[root@ip-172-31-17-103 opt]#
```

Step 6: By default nexus will run as a root user so you have to update the nexus user under **/opt/nexus/bin/nexus.rc**

Uncomment **run_as_user** parameter and set it as nexus user

```
run_as_user="nexus"
```

Step 7: If you want to change the default nexus data directory, open the **nexus.properties** file under **/opt/nexus/bin/ directory** and change the data directory **-Dkaraf.data** parameter to a preferred location as shown below.

If you don't specify anything, by default nexus data directory will be set to **/opt/sonatype-work/nexus3**

```
[root@ip-172-31-17-103 opt]# cat /opt/nexus/bin/nexus.vmoptions
```

Output:

```
[root@ip-172-31-17-103 opt]# cat /opt/nexus/bin/nexus.vmoptions

-Xms2703m
-Xmx2703m
-XX:MaxDirectMemorySize=2703m
-XX:+UnlockDiagnosticVMOptions
-XX:+LogVMOutput
-XX:LogFile=../sonatype-work/nexus3/log/jvm.log
-XX:-OmitStackTraceInFastThrow
-Djava.net.preferIPv4Stack=true
-Dkaraf.home=.
-Dkaraf.base=.
-Dkaraf.etc=etc/karaf
-Djava.util.logging.config.file=etc/karaf/java.util.logging.properties
-Dkaraf.data=../sonatype-work/nexus3
-Dkaraf.log=../sonatype-work/nexus3/log
-Djava.io.tmpdir=../sonatype-work/nexus3/tmp
-Dkaraf.startLocalConsole=false
-Djdk.tls.ephemeralDHKeySize=2048
#
# additional vmoptions needed for Java9+
#
# --add-reads=java.xml=java.logging
# --add-exports=java.base/org.apache.karaf.specs.locator=java.xml,ALL-UNNAMED
# --patch-module java.base=${KARAF_HOME}/lib/endorsed/org.apache.karaf.specs.locator-4.3.6.jar
# --patch-module java.xml=${KARAF_HOME}/lib/endorsed/org.apache.karaf.specs.java.xml-4.3.6.jar
# --add-opens java.base/java.security=ALL-UNNAMED
# --add-opens java.base/java.net=ALL-UNNAMED
# --add-opens java.base/java.lang=ALL-UNNAMED
# --add-opens java.base/java.util=ALL-UNNAMED
# --add-opens java.naming/javax.naming.spi=ALL-UNNAMED
# --add-opens java.rmi/sun.rmi.transport.tcp=ALL-UNNAMED
# --add-exports=java.base/sun.net.www.protocol.http=ALL-UNNAMED
# --add-exports=java.base/sun.net.www.protocol.https=ALL-UNNAMED
# --add-exports=java.base/sun.net.www.protocol.jar=ALL-UNNAMED
# --add-exports=jdk.xml.dom/org.w3c.dom.html=ALL-UNNAMED
# --add-exports=jdk.naming.rmi/com.sun.jndi.url.rmi=ALL-UNNAMED
# --add-exports java.security.sasl/com.sun.security.sasl=ALL-UNNAMED
#
# comment out this vmoption when using Java9+
#
-Djava.endorsed.dirs=lib/endorsed
```

Note: For production setup, Always recommended to mount the nexus data directory to a separate data disk attached to the server. So that you can take backup and restore done easily.

Step 8: To start the **nexus** use below command under **/opt/nexus/bin/** directory

```
[root@ip-172-31-17-103 bin]# sh nexus start
```

Output:

```
[root@ip-172-31-17-103 bin]# pwd
/opt/nexus/bin
[root@ip-172-31-17-103 bin]# ll
total 32
drwxr-xr-x 2 nexus nexus  4096 Aug 28 15:10 contrib
-rwxr-xr-x 1 nexus nexus 18620 Aug 18 13:55 nexus
-rw-r--r-- 1 nexus nexus    20 Aug 28 15:32 nexus.rc
-rw-r--r-- 1 nexus nexus  1635 Aug 18 13:55 nexus.vmoptions
[root@ip-172-31-17-103 bin]# sh nexus start
Starting nexus
[root@ip-172-31-17-103 bin]#
[root@ip-172-31-17-103 bin]# sh nexus status
Last login: Sun Aug 28 15:42:20 UTC 2022 on pts/0
nexus is running.
[root@ip-172-31-17-103 bin]#
```

Step 9: To check the status of the **nexus** use below command under **/opt/nexus/bin/** directory

```
[root@ip-172-31-17-103 bin]# sh nexus status
```

Output:

```
[root@ip-172-31-17-103 bin]# sh nexus status
Last login: Sun Aug 28 15:42:20 UTC 2022 on pts/0
nexus is running.
[root@ip-172-31-17-103 bin]#
```

Step 10: To stop the **nexus** use below command under **/opt/nexus/bin/** directory

```
[root@ip-172-31-17-103 bin]# sh nexus stop
```

Output:

```
[root@ip-172-31-17-103 bin]# sh nexus stop
Last login: Sun Aug 28 15:42:27 UTC 2022 on pts/0
Shutting down nexus
Stopped.
[root@ip-172-31-17-103 bin]#
```

Step 11: To restart the **nexus** use below command under **/opt/nexus/bin/** directory

```
[root@ip-172-31-17-103 bin]# sh nexus restart
```

Output:

```
[root@ip-172-31-17-103 bin]# sh nexus restart
Last login: Sun Aug 28 15:42:36 UTC 2022 on pts/0
Shutting down nexus
nexus is not running.
Restarting nexus
[root@ip-172-31-17-103 bin]#
```

Step 12: Setup **nexus** as a service instead of using shell scripts. You have to create the **nexus.service** file under the **/etc/systemd/system/** directory

```
[root@ip-172-31-17-103 opt]# sudo vim /etc/systemd/system/nexus.service
```

Mentioned the below content in **nexus.service** file

```
[Unit]
Description=nexus service
After=network.target

[Service]
Type=forking
LimitNOFILE=65536
User=nexus
Group=nexus
ExecStart=/opt/nexus/bin/nexus start
ExecStop=/opt/nexus/bin/nexus stop
Restart=Always

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

Step 13: Enable the nexus service using below command

```
[root@ip-172-31-17-103 opt]# sudo systemctl enable  nexus
```

Output:

```
[root@ip-172-31-17-103 bin]# sudo systemctl enable  nexus
Created symlink from /etc/systemd/system/multi-user.target.wants/nexus.service to /etc/systemd/system/nexus.service.
[root@ip-172-31-17-103 bin]#
```

Step 14: Start the nexus service use below command

```
[root@ip-172-31-17-103 opt]# sudo systemctl start  nexus
                          (OR)
[root@ip-172-31-17-103 opt]# sudo service nexus start
```

Step 15: Stop the nexus service use below command

```
[root@ip-172-31-17-103 opt]# sudo systemctl stop  nexus
                          (OR)
[root@ip-172-31-17-103 opt]# sudo service nexus stop
```

Step 16: Check the status of the nexus service

```
[root@ip-172-31-17-103 opt]# sudo systemctl status  nexus
                          (OR)
[root@ip-172-31-17-103 opt]# sudo service nexus status
```

Output:

```
[root@ip-172-31-17-103 ~]# sudo service nexus status
Redirecting to /bin/systemctl status nexus.service
● nexus.service - nexus service
   Loaded: loaded (/etc/systemd/system/nexus.service; enabled; vendor preset: disabled)
   Active: active (running) since Sun 2022-08-28 16:01:33 UTC; 4s ago
  Process: 18962 ExecStart=/opt/nexus/bin/nexus start (code=exited, status=0/SUCCESS)
 Main PID: 19144 (java)
   CGroup: /system.slice/nexus.service
           └─19144 /usr/lib/jvm/java-1.8.0-openjdk-1.8.0.332.b09-1.amzn2.0.2.x86_64/jre/bin/java -server -Dinstall..

Aug 28 16:01:33 ip-172-31-17-103.ec2.internal systemd[1]: Starting nexus service...
Aug 28 16:01:33 ip-172-31-17-103.ec2.internal nexus[18962]: Starting nexus
Aug 28 16:01:33 ip-172-31-17-103.ec2.internal systemd[1]: Started nexus service.
[root@ip-172-31-17-103 ~]#
```

Note: If you are running as a service. You should stop the nexus shell script under **/opt/nexus/bin/** directory. Otherwise service won't be up and running.

Step 17: To restart the nexus service use the below command.

```
[root@ip-172-31-17-103 opt]# sudo systemctl restart  nexus
                          (OR)
[root@ip-172-31-17-103 opt]# sudo service nexus restart
```

Step 18: To access the nexus GUI. First need to enable the 8081 port number

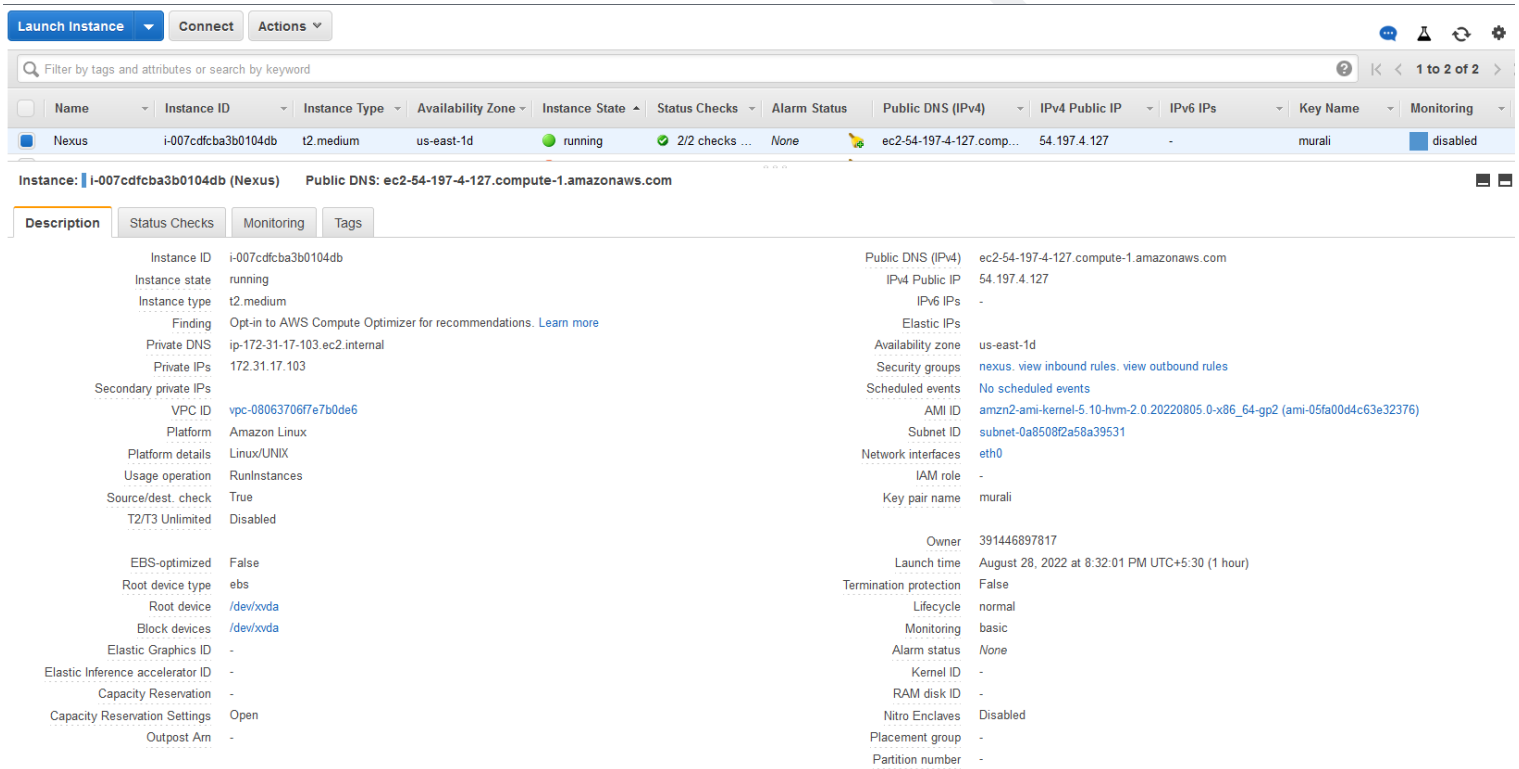
Note:

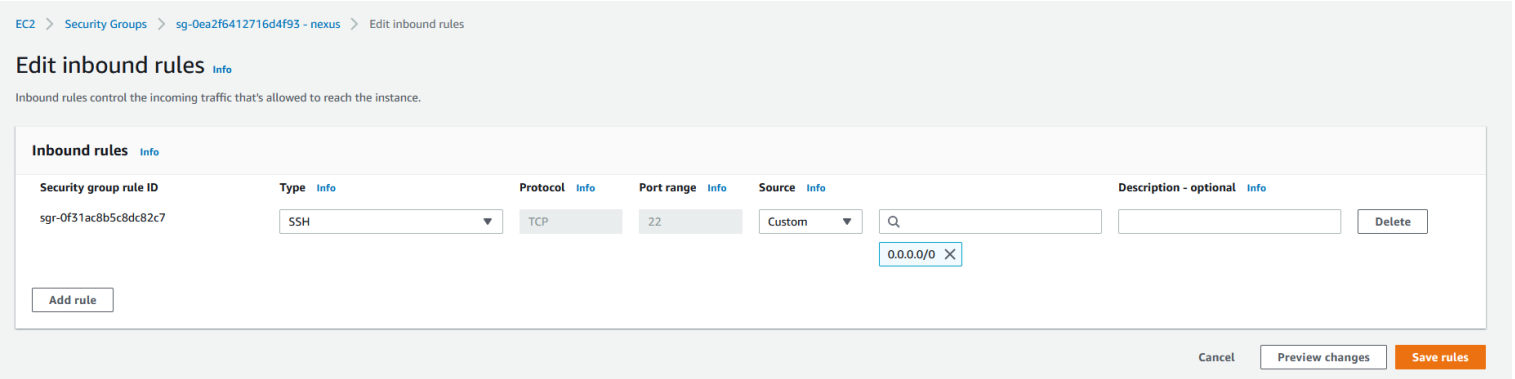
If your using on-premise server use below command to enabled the port number

```
[root@ip-172-31-17-103 ~]# sudo firewall-cmd --permanent --zone=public --add-port=8081/tcp
[root@ip-172-31-17-103 ~]# sudo firewall-cmd --reload
```

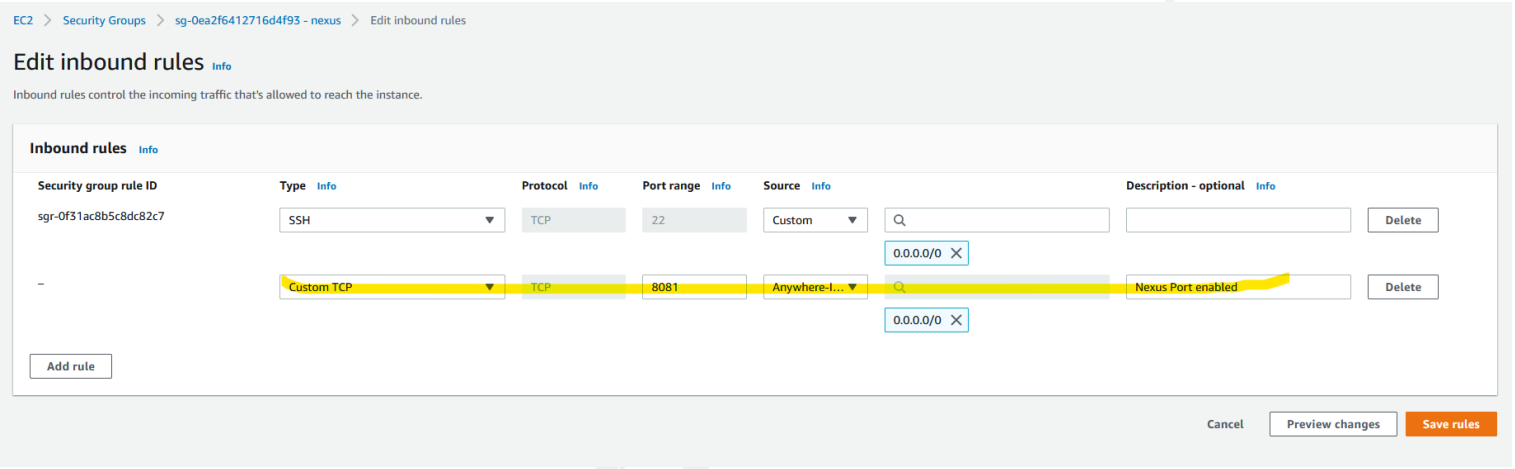
If you are using an AWS EC2 instance, you have to open the Inbound rules 8081 port number in Security Groups for a particular server.

Example:





Add the 8081 port number in the Inbound rule.



Note: If you are not enabled with the 8081 port number , you can't access Nexus GUI.

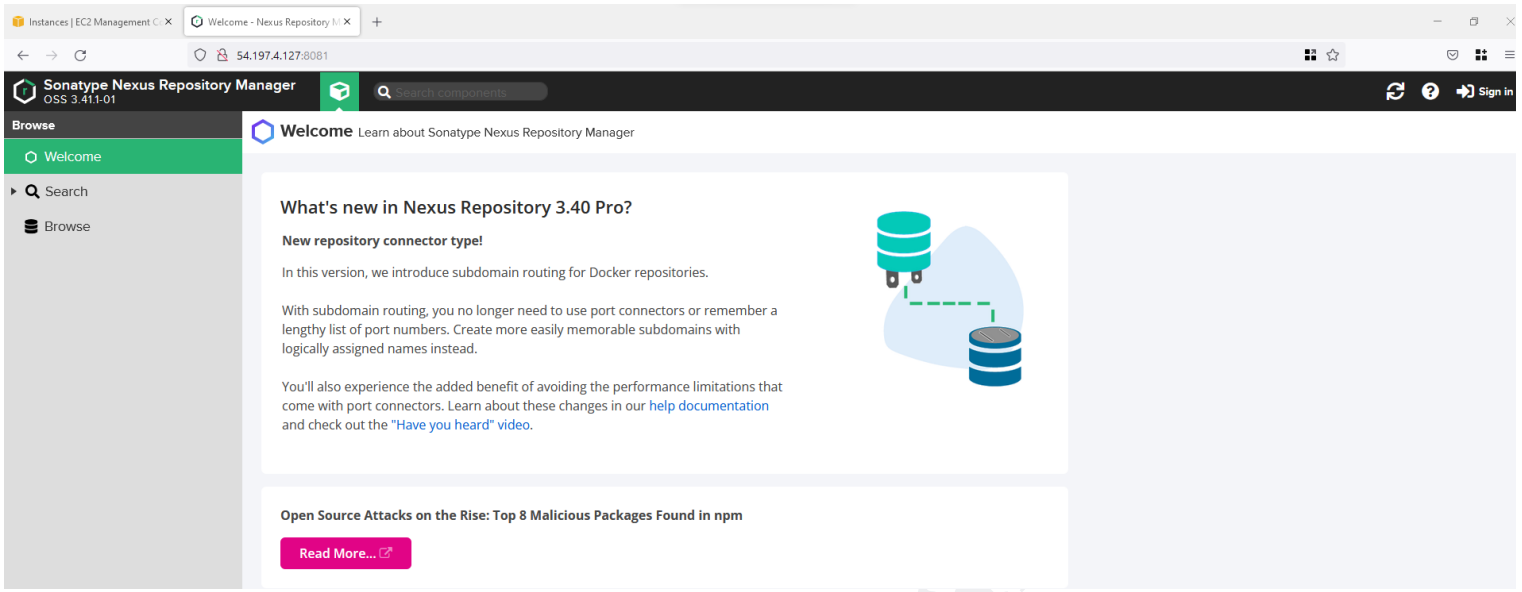
Step 19: To access the Nexus GUI. Open any browser and type your domain or IP address followed by port 8081:

http://your_ip_or_domain:8081

Example:

http://54.197.4.127:8081/

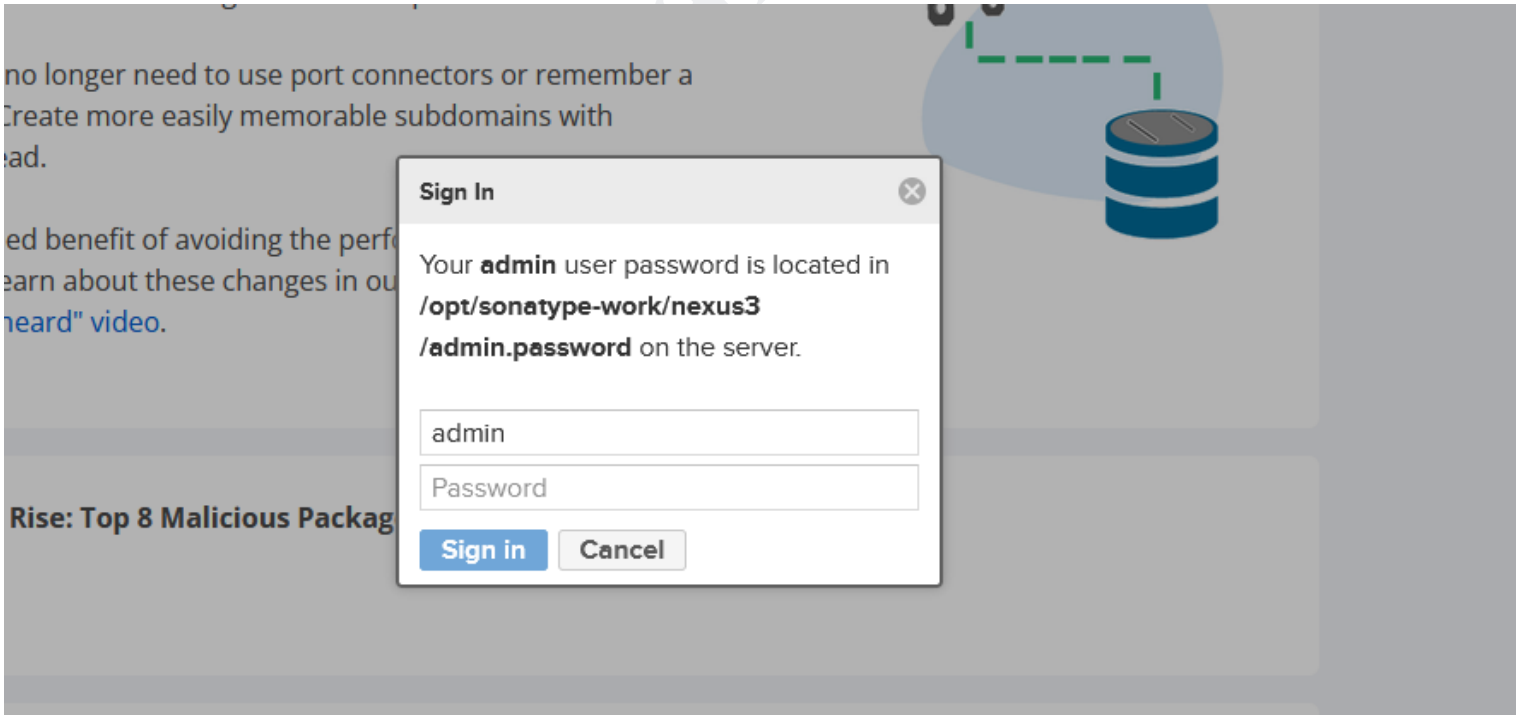
Example:



Step 20: Login to the nexus , use default username and password

Default username: **admin**

Default Password: is available in under **/opt/sonatype-work/nexus3/admin.password** file. The path will be shown in the login screen as shown below.

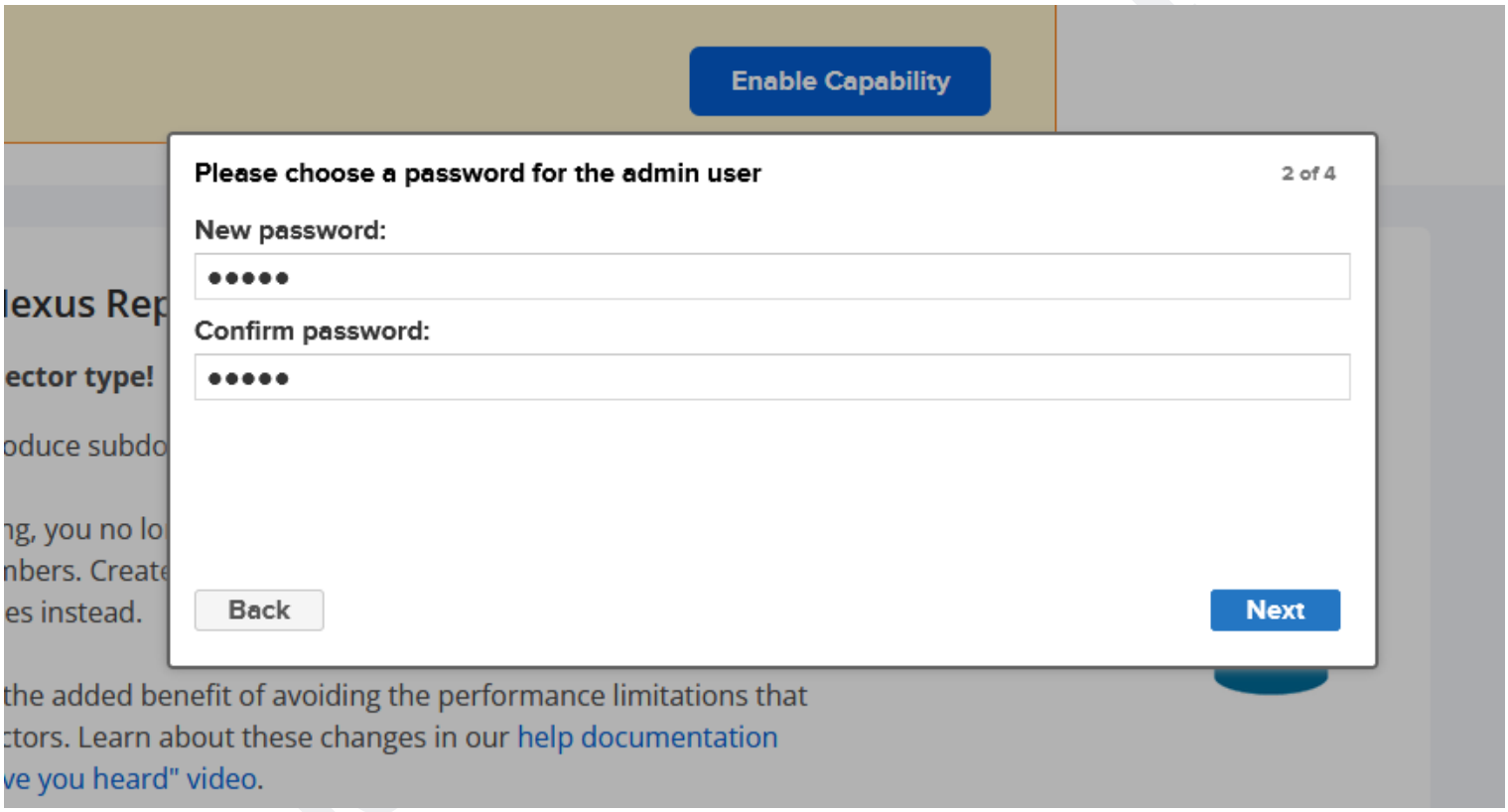


```
[root@ip-172-31-17-103 ~]# cat /opt/sonatype-work/nexus3/admin.password
```

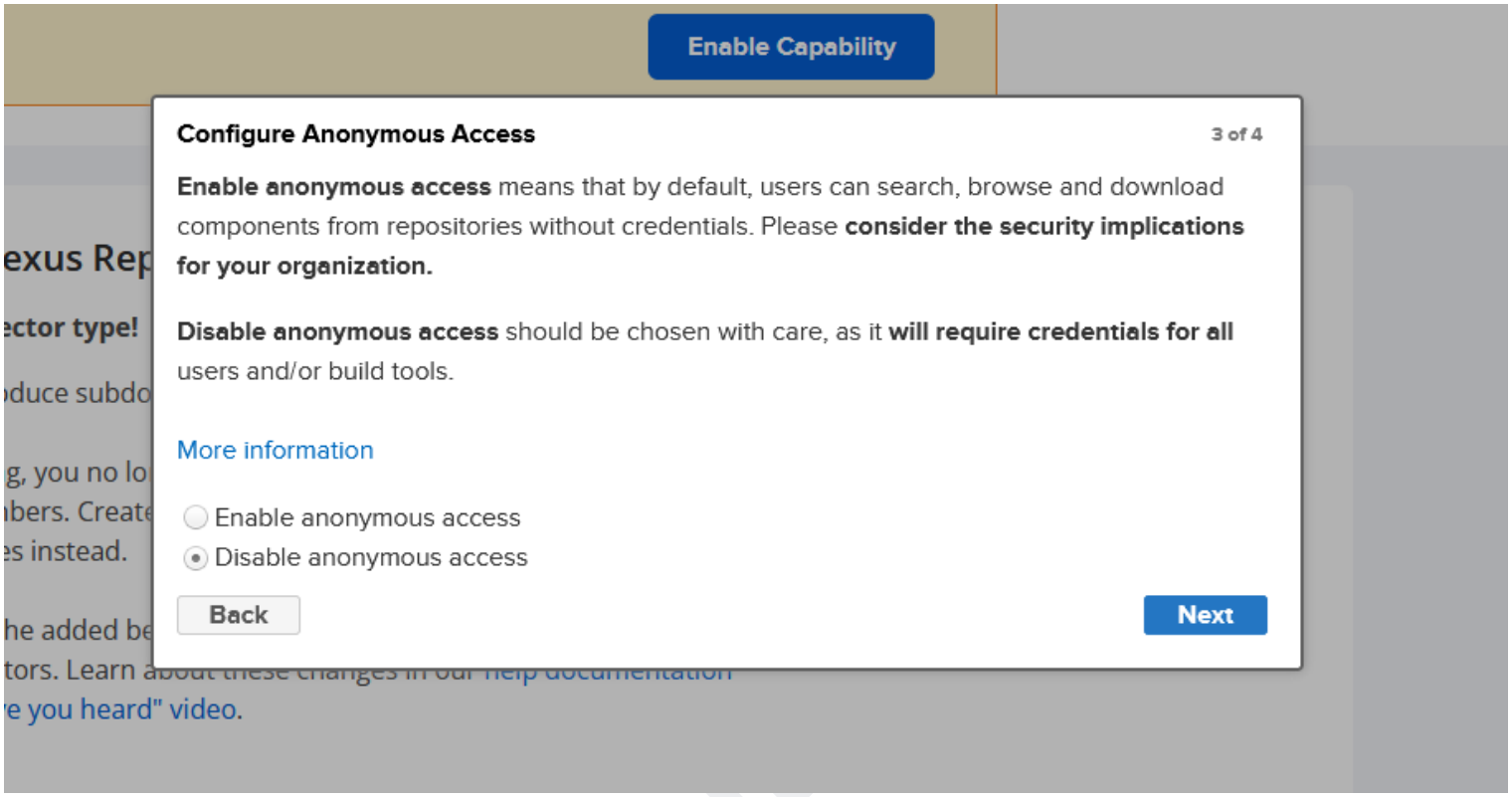
Output:

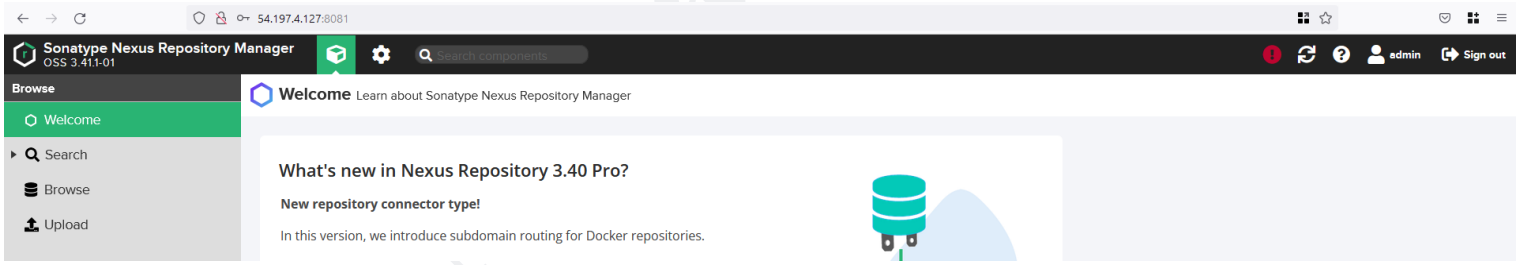
```
c5f6ca13-0fbf-477d-9aa3-47637ed744e0
```

Step 21: Once you login using default username and password, It will be prompted to reset the password.



Disable the anonymous access





Conclusion:

Congratulations. You have successfully installed the Nexus 3. If you are facing any issues during installation. Feel free to reach out in the comment box.

**** Thank you for watching this Video. We will see you in the next video. ****

About the Author:

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- I am having rich experience in Devops and Cloud technologies and have done many projects on all varieties of tools which are hot cake in the market.
- I am passionate about learning new technology and teaching.
- My courses focus on providing students with an interactive and hands-on experience in learning new technology that makes learning really interesting.
- I have a wide range of experience in Telecom, Banking, Healthcare, Retail domains.
- I have been training people in newer technologies, like DevOps, AWS, Kubernetes, Terraform,Rancher, etc. and they have settled in MNC's and drawing respectable salaries.
- I have undergone many challenges and changed the entire phase of the projects.
- Certified in AWS, Kubernetes , Terraform, Linux and many to go.

Please check out my courses and join me with thousands of others who are learning the latest DevOps and Cloud tools!

Website Url: **https://www.techworldwithmurali.com/**
Linkedin Profile : **https://www.linkedin.com/in/moole-muralidhara-reddy/**
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