NEXUS INSTALLATION ON UBUNTU

- **Why we use sonatype nexus?**
  1.To store the artifacts.
  2.Standerd process and directory layout
  3.Time saving
  4.Security
  5.Maintenance & clean-up

Q1) What is artifact?

The file that contains both compiled code and the resources that are required to compile the codes.
They are readily deployable files. In Java the artifact would be .jar .war .ear format.
Source code --> Build tool --> Compilation --> Binary code

Q2) Build Artifact?

It is nothing but a file developed/produced by Build tool.

Q3) Artifact Repository?

Artifact repository is a repository which can store multiple different versions of artifact.

Q4) What is Repository?

A repository is a storage for your work. You can store packages, libraries, binaries, containers here.

Q5) Nexus repository?

1. Nexus repository is a tool used in DevOps methodology for multiple purposes and its main purpose is to store artifacts that are created in the code pipeline.

2. Another purpose is it will used to download multiple dependencies for a build tool.
   It is open-source tool which is developed by Sonatype.
   It organizes, stores, and distributes artifacts that are needed for development.

Q6) Repository Manager?

A repository Manager is a dedicated server application used to manage all the repositories that are used by your development team.

Q7) Nexus Repository Types --

1.Proxy Repository --

A Proxy Repository is a repository that are linked to a remote repository.
A request for any component is checked in local repo if it is not available then checked in remote repo. Then downloaded to local for future.

2.Hosted Repository --

This is the one that you host on your server through third party software like Nexus.

3.Group Repository --

A Group Repository is a collection of other repositories, where you can combine multiple repositories in the same format into single item.
Using this we can have a single URL for proxy and hosted repo.

NEXUS SETUP --

For nexus setup we require minimum 4 GB Memory.

By default, port 8081 is opened for nexus if you want to change you can change it through files. By going inside vi nexus*/etc/nexus-default.properties

To start the nexus cd nexus*/bin -- ./nexus.start

Steps --

Create one Ubuntu Machine through AWS/GCP.

- **1.** We need java installed on this machine if not install by (apt install opejdk-11-jdk)
- **2.** Download Nexus package from website (https://download.sonatype.com/nexus/3/nexus-3.47.1-01-unix.tar.gz)
- **3.** This package should be downloaded inside /opt directory as it is the directory for all package.
- **4.** Unzip/Untar the package.
- **5.** The unzipped package will consist of two directories.
  1.nexus * () Need to go inside)
  2.sonatype-work
- **6.** Nexus need its own user so we will create one nexus user as
  1.useradd nexus
  2.We must add this user into sudoers file under root with NOPASSWD=ALL
  3.Now change the ownership of above files (Step 5) by --
  1.chown nexus:nexus nexus*
  2.chown nexus:nexus sonatype-work
- **7.** Now open this file -- sudo vi /app/nexus/bin/nexus.rc
  Uncomment the line -- run_as_user="nexus"
- **8.** Now open nexus through web by giving ip of your server with port 8081(You have to open it through security group-inbound rule)
  Ex.- ip:8081
- **9.** It will open nexus -- give credentials as admin and password which is stored in nexus-data/admin-password
- **10.** By default you are logged in this as admin in this you can also create users assign them roles also use LDAP

MAVEN INSTALLATION AND UPLOADING PROJECT -

Now we will install maven here and deploy given project so that the war file will be created. But in maven uses its own repo to deploy this app so will change some file configuration as -
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In POM.xml add these lines after </build>

```
<distributionManagement>
  <snapshotRepository>
    <id>nexusdeploymentrepo</id>
    <url>Provide Snapshot link from nexus</url>
  </snapshotRepository>
        <repository>
          <id>nexusdeploymentrepo</id>
    <url>Provide Release link from nexus</url>
  </repository>

</distributionManagement>
```

Now go to cd ~ /.m2

create one file named settings.xml. copy settings.xml file from **(https://github.com/AtulMisal)**