

Nexus Artifactory Configurations With Basic Maven Repository

In this document; steps were mentioned for the basic nexus configurations and maven project artifacts upload.

1. Nexus Repository Creation -

1.1 Open the Novartis Nexus URL "<http://novartis.devops.altimetrik.io:8082/>"

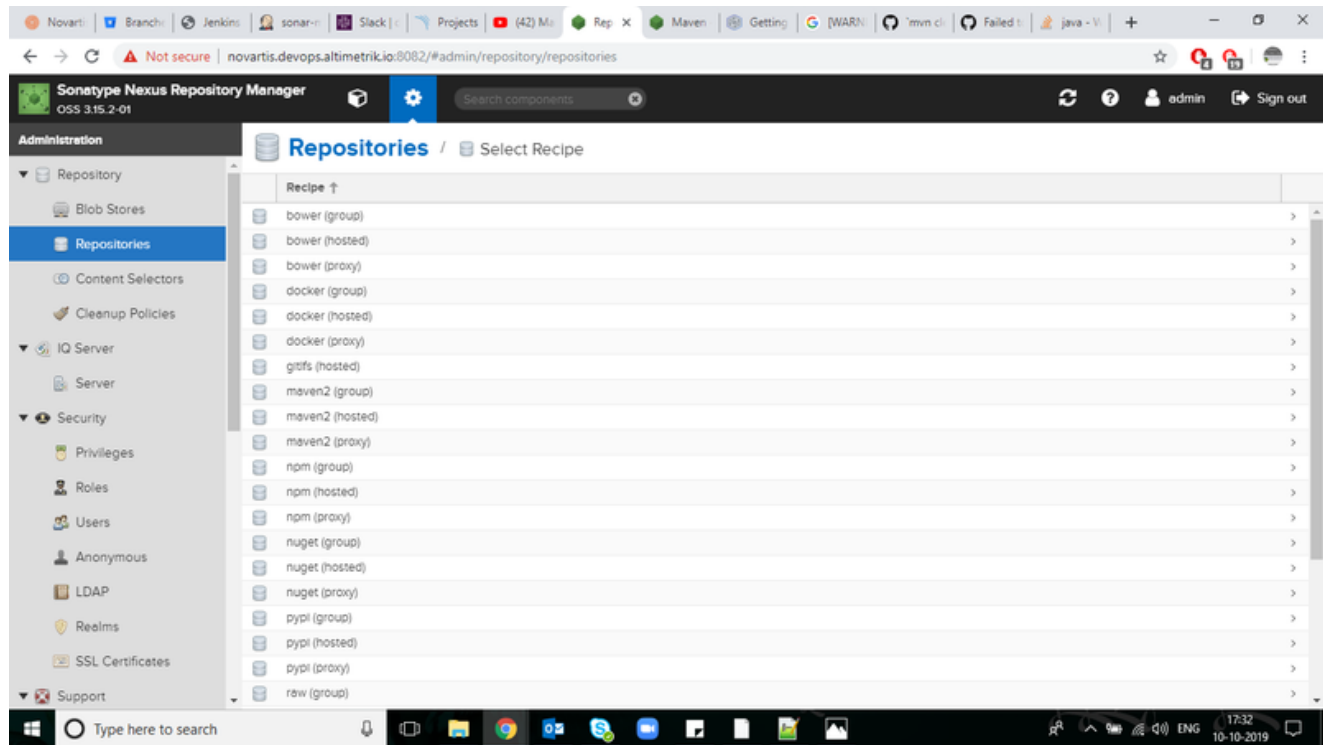
1.2 Login with credentials and Dashboard will be loaded.

1.3 Go to Administration section Repositories admin will be able to see a lot of repositories like below screen shot-

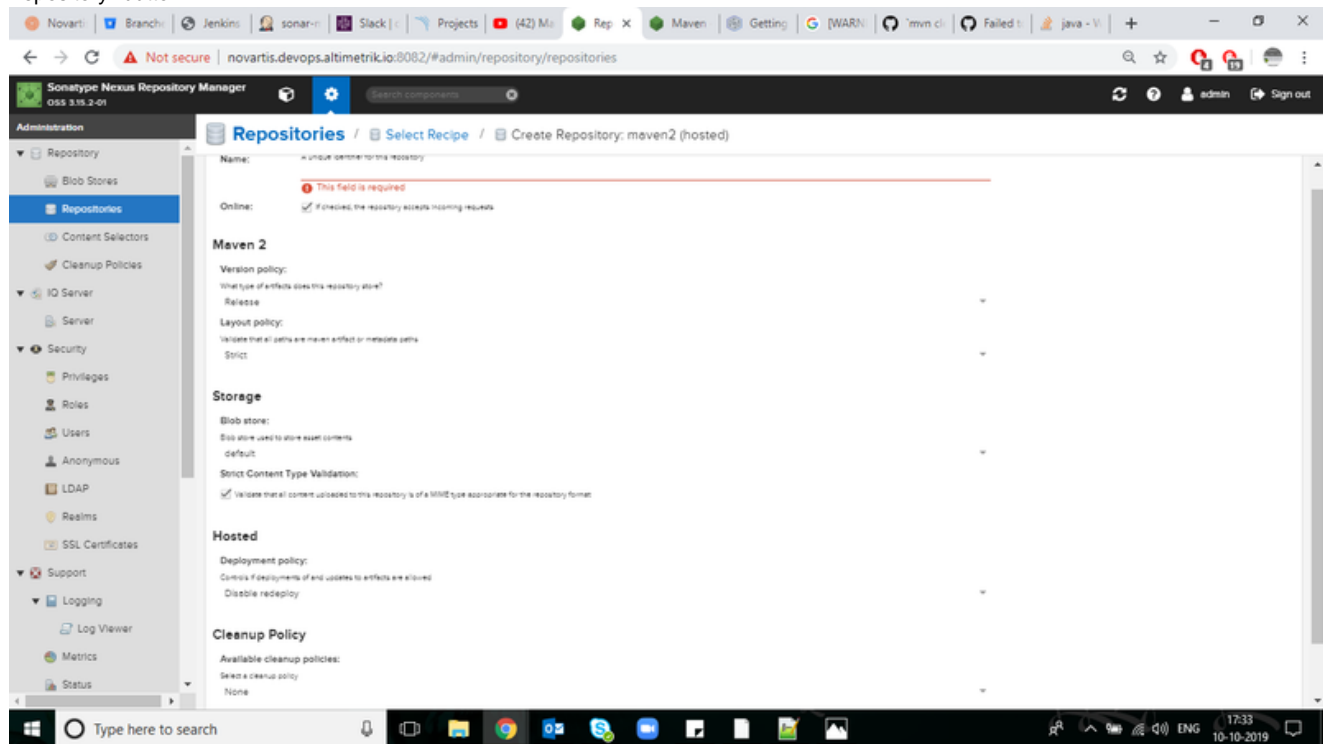
The screenshot shows the Sonatype Nexus Repository Manager OSS 3.15.2-01 interface. The left sidebar contains the 'Administration' menu with options like Repository, Blob Stores, Repositories (selected), Content Selectors, Cleanup Policies, IQ Server, Server, Security, Privileges, Roles, Users, Anonymous, LDAP, Realms, SSL Certificates, and Support. The main content area is titled 'Repositories' and 'Manage repositories'. It features a 'Create repository' button and a table of existing repositories. The table has columns: Name, Type, Format, Status, URL, Health check, and IQ Policy Viola... (Violations). The table lists the following repositories:

Name	Type	Format	Status	URL	Health check	IQ Policy Viola...
maven-central	proxy	maven2	Online - Ready to Connect	copy	Analyze	
maven-public	group	maven2	Online	copy		
maven-releases	hosted	maven2	Online	copy		
maven-snapshots	hosted	maven2	Online	copy		
Nexus_Repo	hosted	maven2	Online	copy		
novartis-maven	hosted	maven2	Online	copy		
nuget-group	group	nuget	Online	copy		
nuget-hosted	hosted	nuget	Online	copy		
nuget.org-proxy	proxy	nuget	Online - Ready to Connect	copy	Analyze	

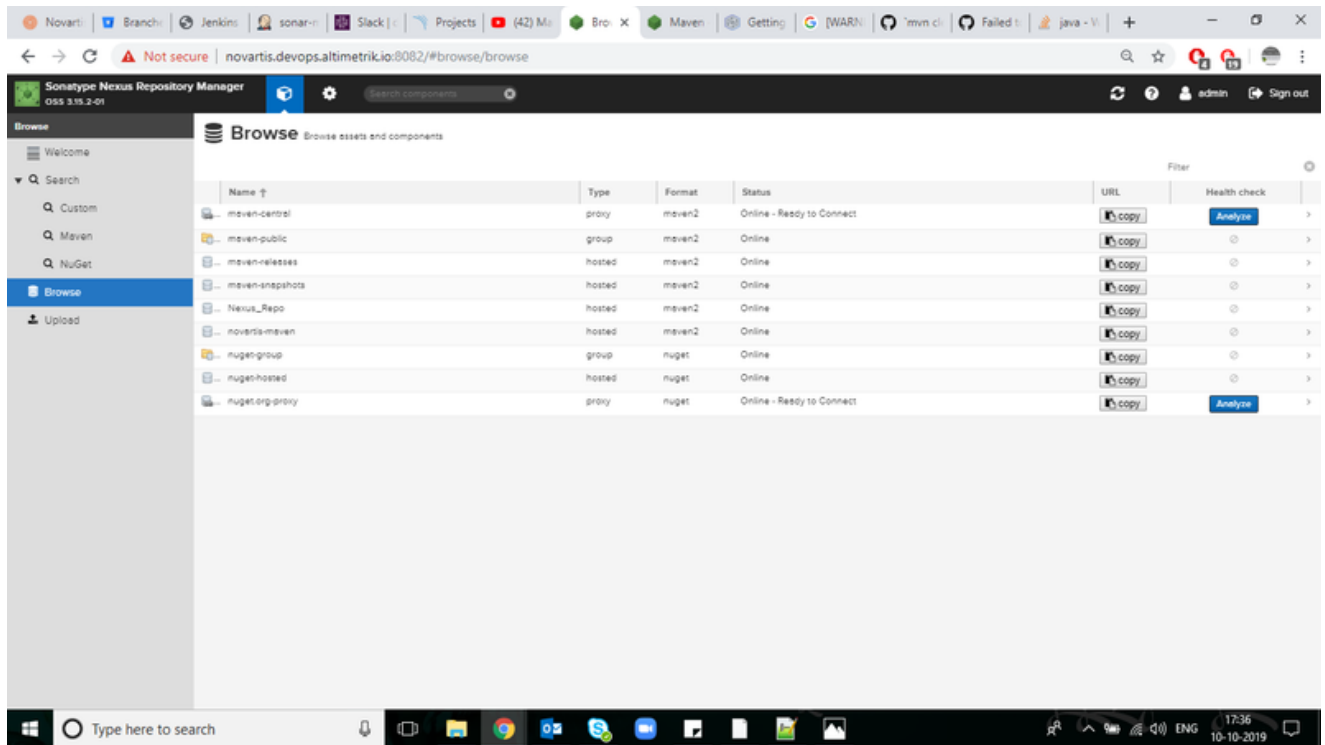
1.4 Create a new repository by clicking on 'Create Repository'. Admin can select the type of repository to be created i.e Maven, Python, Nuget, Npm etc. Choose "maven2 (hosted)" to create the Maven repository.



1.5 Admin needs to mention the Name, Version Policy, Deployment Policy and rest of details can be left as default then click on "Create Repository" button.

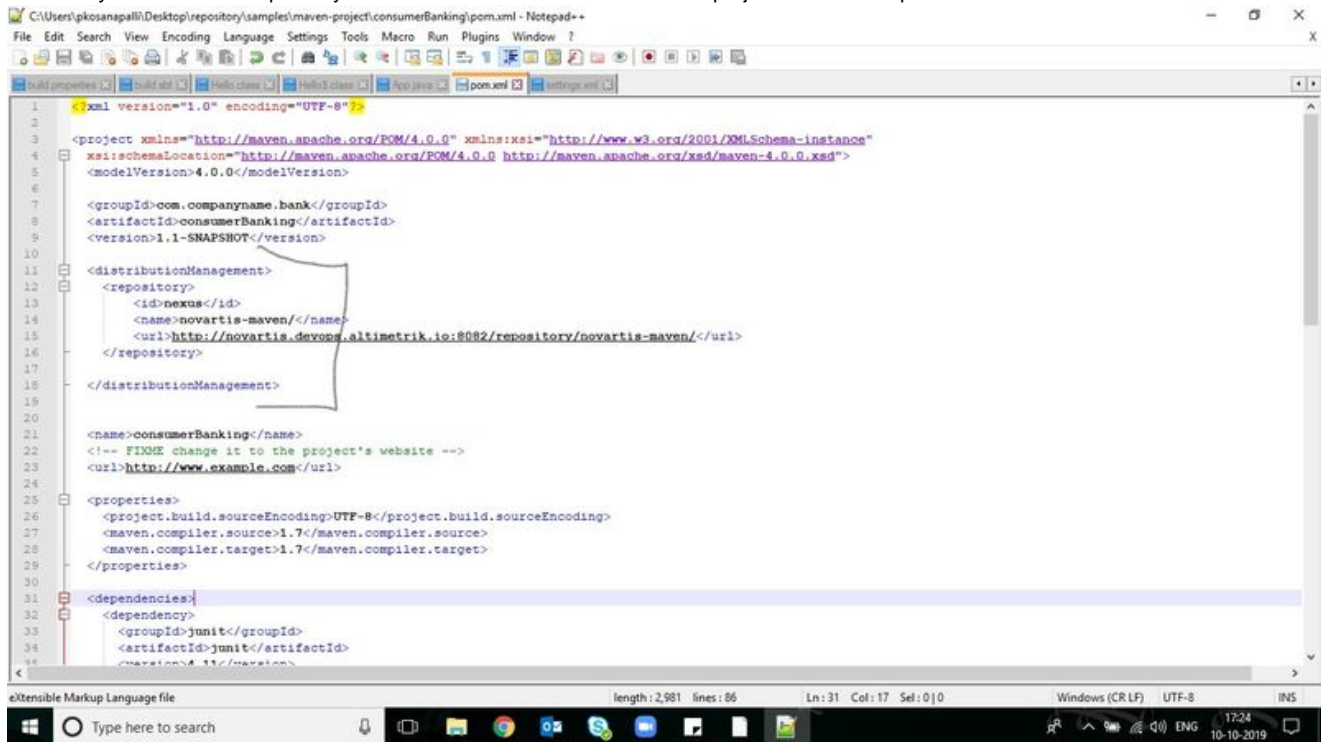


1.6 You will lead to dashboard and can see created maven repositories like below-



2. Maven - Nexus Configuration in POM.XML

2.1 Go to your code base repository like Gitlab or Bitbucket. Create maven project and edit the pom.xml as below -



2.2 Edit the setting.xml in .m2 folder like below -

```
1  <?xml version="1.0" encoding="UTF-8"?>
2
3  <settings>
4    <servers>
5      <server>
6        <id>nexus</id>
7        <url>http://novartis.devops.altimetrik.io:8082/</url>
8        <username>admin</username>
9        <password>password123</password>
10     </server>
11   </servers>
12
13   <mirror>
14     <id>nexus</id>
15     <url>http://novartis.devops.altimetrik.io:8082/</url>
16     <mirrorOf>*</mirrorOf>
17   </mirror>
18 </settings>
19
```

2.3 Now build the java application with the maven pom.xml the commands are below-

2.3.1 mvn clean

2.3.2 mvn package

2.3.3 mvn deploy

2.3.4 mvn clean install

```
MINGW64 C:\Users\pkosanapalli\Desktop\repository\samples\maven-project\consumerBanking
$ mvn clean
[WARNING] Some problems were encountered while building the effective settings
[WARNING] Unrecognised tag: 'url' (position: START_TAG seen ...<id>nexus</id>\n\t<url>... @ C:\Users\pkosanapalli\Desktop\documents\apache-maven-3.6.2\bin\apache-maven-3.6.2\conf\settings.xml, line 7, column 8)
[WARNING]
[INFO] Scanning for projects...
[INFO]
[INFO] -----< com.companyname.bank:consumerBanking >-----
[INFO] Building consumerBanking 1.0-SNAPSHOT
[INFO]
[INFO] --- maven-clean-plugin:3.1.0:clean (default-clean) @ consumerBanking ---
[INFO] Deleting C:\Users\pkosanapalli\Desktop\repository\samples\maven-project\consumerBanking\target
[INFO] BUILD SUCCESS
[INFO] Total time: 0.526 s
[INFO] Finished at: 2019-10-10T17:16:05:30
[INFO]
$
MINGW64 C:\Users\pkosanapalli\Desktop\repository\samples\maven-project\consumerBanking (master)
$
$ mvn package
[WARNING] Some problems were encountered while building the effective settings
[WARNING] Unrecognised tag: 'url' (position: START_TAG seen ...<id>nexus</id>\n\t<url>... @ C:\Users\pkosanapalli\Desktop\documents\apache-maven-3.6.2\bin\apache-maven-3.6.2\conf\settings.xml, line 7, column 8)
[WARNING]
[INFO] Scanning for projects...
[INFO]
[INFO] -----< com.companyname.bank:consumerBanking >-----
[INFO] Building consumerBanking 1.0-SNAPSHOT
[INFO]
[INFO] --- maven-resources-plugin:3.0.2:resources (default-resources) @ consumerBanking ---
[INFO] Using 'UTF-8' encoding to copy filtered resources.
[INFO] skip non existing resourceDirectory C:\Users\pkosanapalli\Desktop\repository\samples\maven-project\consumerBanking\src\main\resources
[INFO]
[INFO] --- maven-compiler-plugin:3.8.0:compile (default-compile) @ consumerBanking ---
[INFO] Changes detected - recompiling the module!
[INFO] Compiling 1 source file to C:\Users\pkosanapalli\Desktop\repository\samples\maven-project\consumerBanking\target\classes
[INFO]
[INFO] --- maven-resources-plugin:3.0.2:testResources (default-testResources) @ consumerBanking ---
[INFO] Using 'UTF-8' encoding to copy filtered resources.
[INFO] skip non existing resourceDirectory C:\Users\pkosanapalli\Desktop\repository\samples\maven-project\consumerBanking\src\test\resources
```

```
MINGW64/c/Users/pkasanapalli/Desktop/repository/samples/maven-project/consumerBanking
[WARNING] Some problems were encountered while building the effective settings
[WARNING] Unrecognised tag: 'url' (position: START_TAG seen ...<id>nexus</id><url>... @7:8) @ C:\Users\pkasanapalli\Desktop\documents\apache-maven-3.6.2-bin\apache-maven-3.6.2\conf\sett
ings.xml, line 7, column 8
[WARNING]
[INFO] Scanning for projects...
[INFO] -----< com.companyname.bank:consumerBanking >-----
[INFO] Building consumerBanking 1.0-SNAPSHOT
[INFO] -----[ jar ]-----
[INFO]
[INFO] --- maven-resources-plugin:3.0.2:resources (default-resources) @ consumerBanking ---
[INFO] Using 'UTF-8' encoding to copy filtered resources.
[INFO] skip non existing resourceDirectory C:\Users\pkasanapalli\Desktop\repository\samples\maven-project\consumerBanking\src\main\resources
[INFO]
[INFO] --- maven-compiler-plugin:3.8.0:compile (default-compile) @ consumerBanking ---
[INFO] Changes detected - recompiling the module!
[INFO] Compiling 1 source file to C:\Users\pkasanapalli\Desktop\repository\samples\maven-project\consumerBanking\target\classes
[INFO]
[INFO] --- maven-resources-plugin:3.0.2:testResources (default-testResources) @ consumerBanking ---
[INFO] Using 'UTF-8' encoding to copy filtered resources.
[INFO] skip non existing resourceDirectory C:\Users\pkasanapalli\Desktop\repository\samples\maven-project\consumerBanking\src\test\resources
[INFO]
[INFO] --- maven-compiler-plugin:3.8.0:testCompile (default-testCompile) @ consumerBanking ---
[INFO] Changes detected - recompiling the module!
[INFO] Compiling 1 source file to C:\Users\pkasanapalli\Desktop\repository\samples\maven-project\consumerBanking\target\test-classes
[INFO]
[INFO] --- maven-surefire-plugin:2.22.1:test (default-test) @ consumerBanking ---
[INFO]
[INFO] -----
[INFO] T E S T S
[INFO] -----
[INFO] Running com.companyname.bank.AppTest
[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.027 s - in com.companyname.bank.AppTest
[INFO]
[INFO] Results:
[INFO]
[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0
[INFO]
[INFO]
[INFO] --- maven-jar-plugin:3.0.2:jar (default-jar) @ consumerBanking ---
[INFO] Building jar: C:\Users\pkasanapalli\Desktop\repository\samples\maven-project\consumerBanking\target\consumerBanking-1.0-SNAPSHOT.jar
[INFO]
[INFO] BUILD SUCCESS
[INFO]
[INFO] Total time: 3.560 s
[INFO] Finished at: 2019-10-10T17:16:32+05:30
[INFO]
[INFO]
pkasanapalli@BAIPL-LT-711 MINGW64 ~/Desktop/repository/samples/maven-project/consumerBanking (master)
$
```

```
MINGW64/c/Users/pkasanapalli/Desktop/repository/samples/maven-project/consumerBanking
pkasanapalli@BAIPL-LT-711 MINGW64 ~/Desktop/repository/samples/maven-project/consumerBanking (master)
$ mvn deploy
[WARNING] Some problems were encountered while building the effective settings
[WARNING] Unrecognised tag: 'url' (position: START_TAG seen ...<id>nexus</id><url>... @7:8) @ C:\Users\pkasanapalli\Desktop\documents\apache-maven-3.6.2-bin\apache-maven-3.6.2\conf\sett
ings.xml, line 7, column 8
[WARNING]
[INFO] Scanning for projects...
[INFO] -----< com.companyname.bank:consumerBanking >-----
[INFO] Building consumerBanking 1.0-SNAPSHOT
[INFO] -----[ jar ]-----
[INFO]
[INFO] --- maven-resources-plugin:3.0.2:resources (default-resources) @ consumerBanking ---
[INFO] Using 'UTF-8' encoding to copy filtered resources.
[INFO] skip non existing resourceDirectory C:\Users\pkasanapalli\Desktop\repository\samples\maven-project\consumerBanking\src\main\resources
[INFO]
[INFO] --- maven-compiler-plugin:3.8.0:compile (default-compile) @ consumerBanking ---
[INFO] Nothing to compile - all classes are up to date
[INFO]
[INFO] --- maven-resources-plugin:3.0.2:testResources (default-testResources) @ consumerBanking ---
[INFO] Using 'UTF-8' encoding to copy filtered resources.
[INFO] skip non existing resourceDirectory C:\Users\pkasanapalli\Desktop\repository\samples\maven-project\consumerBanking\src\test\resources
[INFO]
[INFO] --- maven-compiler-plugin:3.8.0:testCompile (default-testCompile) @ consumerBanking ---
[INFO] Nothing to compile - all classes are up to date
[INFO]
[INFO] --- maven-surefire-plugin:2.22.1:test (default-test) @ consumerBanking ---
[INFO]
[INFO] -----
[INFO] T E S T S
[INFO] -----
[INFO] Running com.companyname.bank.AppTest
[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.033 s - in com.companyname.bank.AppTest
[INFO]
[INFO] Results:
[INFO]
[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0
[INFO]
[INFO]
[INFO] --- maven-jar-plugin:3.0.2:jar (default-jar) @ consumerBanking ---
[INFO]
[INFO] --- maven-install-plugin:2.5.2:install (default-install) @ consumerBanking ---
[INFO] Installing C:\Users\pkasanapalli\Desktop\repository\samples\maven-project\consumerBanking\target\consumerBanking-1.0-SNAPSHOT.jar to C:\Users\pkasanapalli.m2\repository\com\companyname
\bank\consumerBanking\1.0-SNAPSHOT\consumerBanking-1.0-SNAPSHOT.jar
[INFO] Installing C:\Users\pkasanapalli\Desktop\repository\samples\maven-project\consumerBanking\pom.xml to C:\Users\pkasanapalli.m2\repository\com\companyname\bank\consumerBanking\1.0-SNAPSH
OT\consumerBanking-1.0-SNAPSHOT.pom
[INFO]
[INFO] --- maven-deploy-plugin:2.8.2:deploy (default-deploy) @ consumerBanking ---
```



```
MINGW64/c/Users/pkasanapalli/Desktop/repository/samples/maven-project/consumerBanking
[INFO] --- maven-resources-plugin:3.0.2:testResources (default-testResources) @ consumerBanking ---
[INFO] Using 'UTF-8' encoding to copy filtered resources.
[INFO] skip non existing resourceDirectory C:\Users\pkasanapalli\Desktop\repository\samples\maven-project\consumerBanking\src\test\resources
[INFO]
[INFO] --- maven-compiler-plugin:3.8.0:testCompile (default-testCompile) @ consumerBanking ---
[INFO] Nothing to compile - all classes are up to date
[INFO]
[INFO] --- maven-surefire-plugin:2.22.1:test (default-test) @ consumerBanking ---
[INFO]
[INFO] -----
[INFO] T E S T S
[INFO] -----
[INFO] Running com.companyname.bank.AppTest
[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.033 s - in com.companyname.bank.AppTest
[INFO]
[INFO] Results:
[INFO]
[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0
[INFO]
[INFO] --- maven-jar-plugin:3.0.2:jar (default-jar) @ consumerBanking ---
[INFO]
[INFO] --- maven-install-plugin:2.5.2:install (default-install) @ consumerBanking ---
[INFO] Installing C:\Users\pkasanapalli\Desktop\repository\samples\maven-project\consumerBanking\target\consumerBanking-1.0-SNAPSHOT.jar to C:\Users\pkasanapalli\.m2\repository\com\companyname\bank\consumerBanking\1.0-SNAPSHOT\consumerBanking-1.0-SNAPSHOT.jar
[INFO] Installing C:\Users\pkasanapalli\Desktop\repository\samples\maven-project\consumerBanking\pom.xml to C:\Users\pkasanapalli\.m2\repository\com\companyname\bank\consumerBanking\1.0-SNAPSHOT\consumerBanking-1.0-SNAPSHOT.pom
[INFO]
[INFO] --- maven-deploy-plugin:2.8.2:deploy (default-deploy) @ consumerBanking ---
[INFO] Downloading from nexus: http://novartis.devops.altimetrik.io:8082/repository/novartis-maven/com/companyname/bank/consumerBanking/1.0-SNAPSHOT/maven-metadata.xml
[INFO] Uploading to nexus: http://novartis.devops.altimetrik.io:8082/repository/novartis-maven/com/companyname/bank/consumerBanking/1.0-SNAPSHOT/consumerBanking-1.0-20191010.114713-1.jar (3.0 kB at 1.2 kB/s)
[INFO] Uploading to nexus: http://novartis.devops.altimetrik.io:8082/repository/novartis-maven/com/companyname/bank/consumerBanking/1.0-SNAPSHOT/consumerBanking-1.0-20191010.114713-1.pom (3.0 kB at 1.1 kB/s)
[INFO] Downloading from nexus: http://novartis.devops.altimetrik.io:8082/repository/novartis-maven/com/companyname/bank/consumerBanking/maven-metadata.xml
[INFO] Uploading to nexus: http://novartis.devops.altimetrik.io:8082/repository/novartis-maven/com/companyname/bank/consumerBanking/1.0-SNAPSHOT/maven-metadata.xml
[INFO] Uploading to nexus: http://novartis.devops.altimetrik.io:8082/repository/novartis-maven/com/companyname/bank/consumerBanking/maven-metadata.xml (779 B at 299 B/s)
[INFO] Uploading to nexus: http://novartis.devops.altimetrik.io:8082/repository/novartis-maven/com/companyname/bank/consumerBanking/maven-metadata.xml (293 B at 112 B/s)
[INFO]
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 16.302 s
[INFO] Finished at: 2019-10-10T17:24:05:30
[INFO]
[INFO] -----
pkasanapalli@BAIPL-LT-711 MINGW64 ~/Desktop/repository/samples/maven-project/consumerBanking (master)
$ |
```

2.4 When build is successful and same can be observed in repository and maven package in nexus. Artifacts are uploaded into Nexus Repository.

The screenshot shows the Sonatype Nexus Repository Manager web interface. The top navigation bar includes links for Novartis, Branches, Jenkins, Sonar, Slack, Projects, and a search bar. The main content area is titled "Maven" and displays search results for components by Maven coordinates. The search criteria are set to "Any" for Group Id, Artifact Id, Version, Base Version, Classifier, and Extension. The results table shows three artifacts:

Name	Group	Version	Format
consumerBanking	com.companyname.bank	1.0-SNAPSHOT	maven2
novawar	com.nova	1.0	maven2
novawar	com.nova	(4)	maven2

The top screenshot shows the Sonatype Nexus Repository Manager interface. The search results for 'consumerBanking' in the 'novartis-maven' repository are displayed. The results table shows the following artifacts:

Name
com/companyname/bank/consumerBanking/1.0-SNAPSHOT/consumerBanking-1.0-20191010.114713-1.jar
com/companyname/bank/consumerBanking/1.0-SNAPSHOT/consumerBanking-1.0-20191010.114713-1.jar.md5
com/companyname/bank/consumerBanking/1.0-SNAPSHOT/consumerBanking-1.0-20191010.114713-1.jar.sha1
com/companyname/bank/consumerBanking/1.0-SNAPSHOT/consumerBanking-1.0-20191010.114713-1.pom
com/companyname/bank/consumerBanking/1.0-SNAPSHOT/consumerBanking-1.0-20191010.114713-1.pom.md5
com/companyname/bank/consumerBanking/1.0-SNAPSHOT/consumerBanking-1.0-20191010.114713-1.pom.sha1

The bottom screenshot shows the 'Browse' view of the 'novartis-maven' repository. The tree structure shows the following artifacts:

- com
 - companyname
 - bank
 - consumerBanking
 - 1.0-SNAPSHOT
 - consumerBanking-1.0-20191010.114713-1.jar
 - consumerBanking-1.0-20191010.114713-1.jar.md5
 - consumerBanking-1.0-20191010.114713-1.jar.sha1
 - consumerBanking-1.0-20191010.114713-1.pom
 - consumerBanking-1.0-20191010.114713-1.pom.md5
 - consumerBanking-1.0-20191010.114713-1.pom.sha1
 - maven-metadata.xml
 - maven-metadata.xml.md5
 - maven-metadata.xml.sha1
 - maven-metadata.xml
 - maven-metadata.xml.md5
 - maven-metadata.xml.sha1

The summary panel on the right shows the following details:

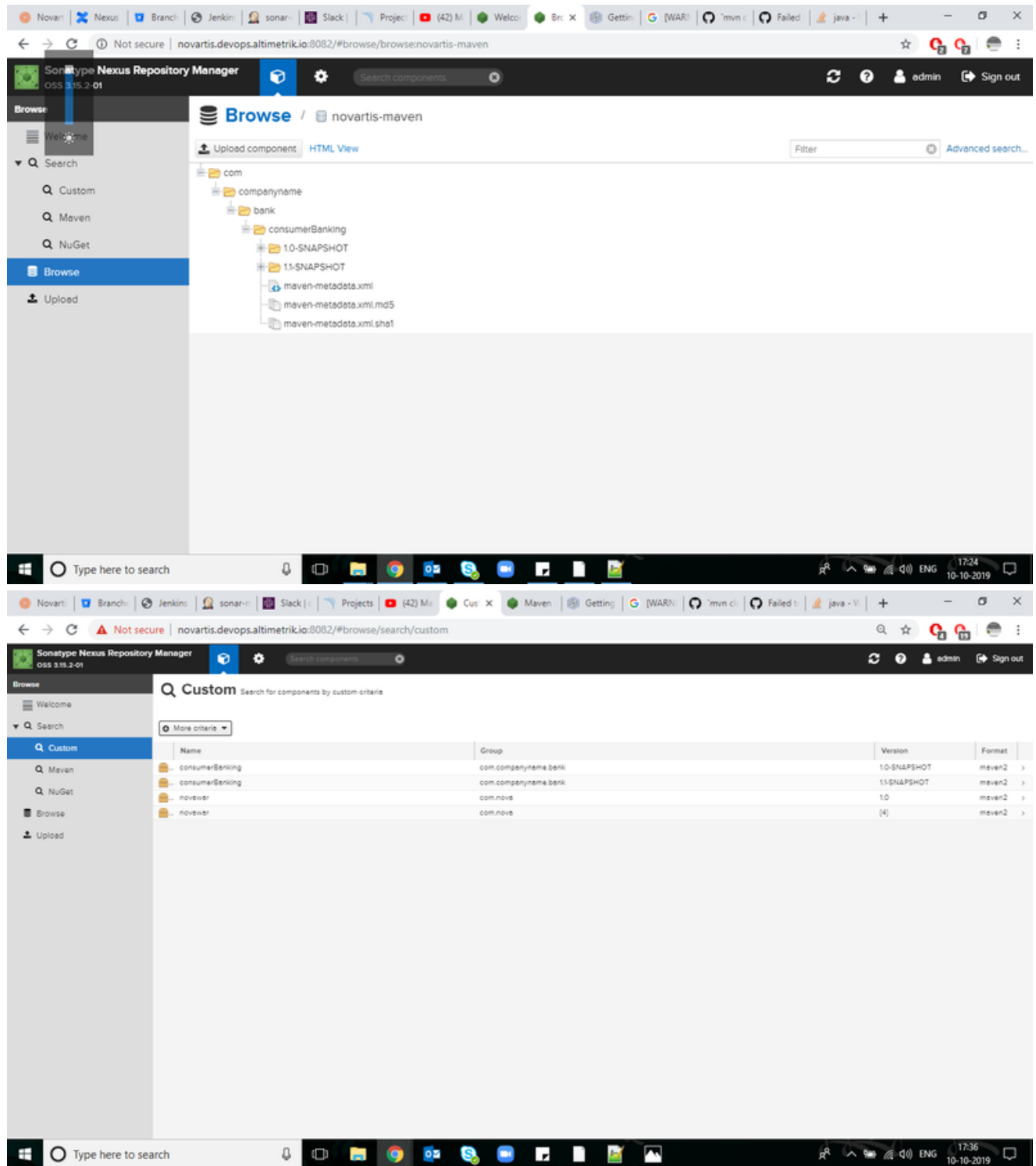
Summary	
Repository	novartis-maven
Format	maven2
Group	com.companyname.bank
Name	consumerBanking
Version	1.0-20191010.114713-1
Most popular version	
Age	
Popularity	

The usage section shows the following snippet:

```
<dependency>
```

2.5 Change the version in pom.xml and build the application again with "MVN CLEAN INSTALL" command.

2.6 New version or changes are also uploaded in Nexus.



3. Jenkins - Nexus Integration

3.1