

using GCS? Just configure an XML file and do a simple migration of your current filestore. GCS is available on Artifactory with an Enterprise license.

Build Integration

Jenkins/Hudson, TeamCity and Bamboo

Stream your builds of liquid software into Artifactory from your favorite CI Server together with exhaustive build environment information captured during deployment to enable fully reproducible builds that continuously update computer systems and devices. Promote builds and use the build's Bill of Materials to view deployed modules with their published artefacts and dependencies in all scopes. See where specific artefacts are used and receive warnings when required build dependencies are removed. Link back to the build information in the CI server and vice versa.

Currently, [Jenkins](#), [Hudson](#), [JetBrains TeamCity](#) and [Atlassian Bamboo](#) are supported.

Git LFS

Do you use Git for source code control? So do many others. But what about the binary assets that go along with your source code? Git is not the best solution for that. "GitHub LFS," you say? Well, there is a better solution still. Artifactory is a fully-fledged Git LFS (Large File Storage) repository and can optimize your workflow when working with large media files and other binary resources. Artifactory fully supports the Git LFS API, so all you need to do is configure your Git client to point to Artifactory as the Large File Storage repository.

Artifactory Vs. Nexus The Integration Matrix

The evolution of Continuous Integration, build tools and build servers in the past years has been very impressive. The amount of projects (open source, or not) and tools that were launched and later adopted by the community (Maven, Gradle, Jenkins/Hudson, TeamCity, Bamboo, and more...) shows that this is the future of software development and this is how people will build and package their applications.

One of the greatest advantages, especially in the Java world, is that development teams have the freedom to choose and build modular environments by integrating the tools that they like, need and that were adopted by their organization.

This is why our users build their projects using Maven, TeamCity, Ivy, Hudson, Gradle, Bamboo and recently Jenkins. Bottom line is, you should not be concerned about the ability of the tools to integrate while designing your CI stack! BUT, things are changing. Now even more with the fork of Hudson CI (currently owned by Oracle), Artifactory has come to be the only Binary Repository Manager that gives you the real freedom to choose. During the past year, JFrog's team has been developing for the Artifactory users a number of open source plug-ins that are tightly integrated with the world's leading tools and vendors. The following comparison tables are more than just a list of features – it is what we envision when we think about the software development tooling, and how we ensure that our users keep their freedom of choice: **Build tools integration**

Build servers integration

Visualpath Training & Consulting.

Flat no: 205, Nilgiri Block, Aditya Enclave, Ameerpet, Hyderabad, Phone No: +91-970 445 5959, 961 824 5689 E-Mail ID : online.visualpath@gmail.com, Website : www.visualpath.in.

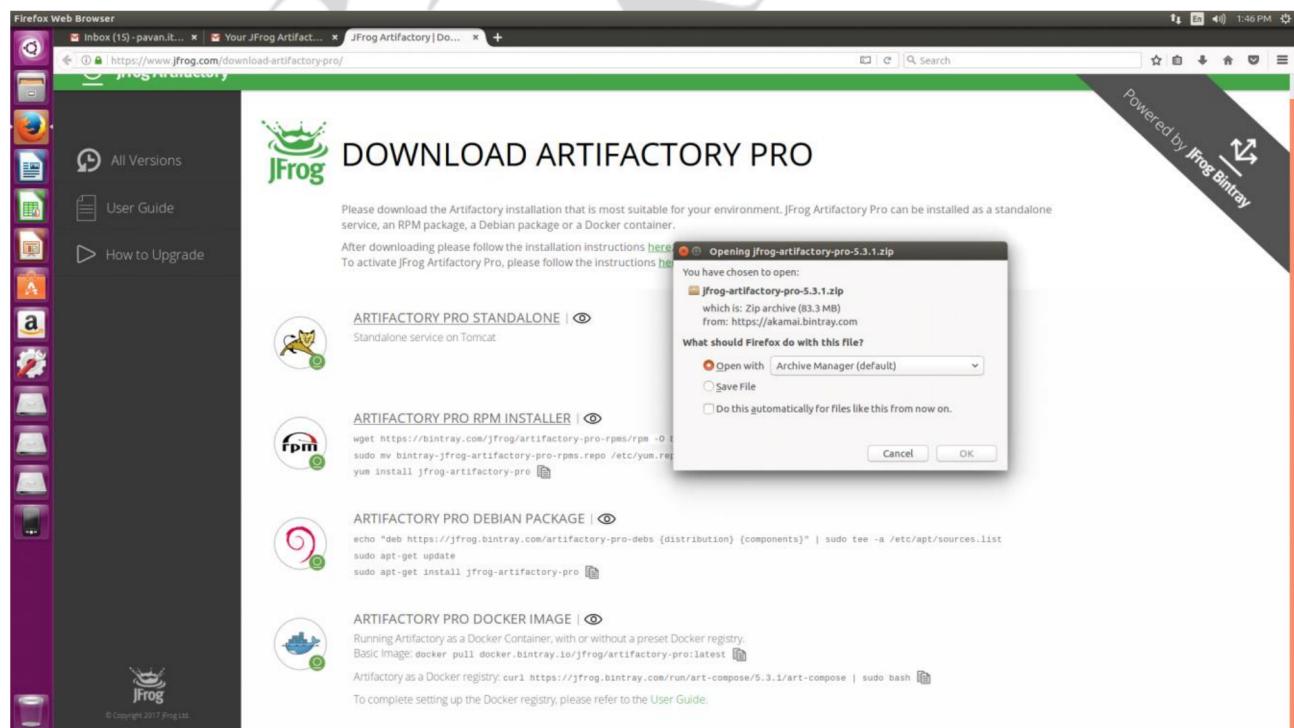
16. Why should I use jcenter over Maven Central for downloading dependencies?

jcenter is the public repository hosted at bintray that is free to use for open source library publishers. There are load of good reasons to use jcenter over Maven Central. Here are some of the major ones.

- jcenter delivers library through CDN which means improvements in CI and developer builds.
- Avoid trojan codes
- jcenter is the largest Java Repository on earth, so whatever is available on Maven Central is available on jcenter as well.
- It is incredibly easy to upload your own library to bintray. No need to sign them or do any complex things like you have to on Maven Central.
- Friendly-UI
- If you want to upload your library to Maven Central you could do it easily with a single click on the bintray site.

J- FROG INSTALLATION

Go to www.jfrog.com/downloads-artifactory-pro/ and click on Artifactory Pro Standalone



```
root@pavan:/home/pavan/Downloads# ls
jfrog-artifactory-pro-5.3.1.zip
root@pavan:/home/pavan/Downloads# unzip jfrog-artifactory-pro-5.3.1.zip
Archive: jfrog-artifactory-pro-5.3.1.zip
  creating: artifactory/pro-5.3.1/
  creating: artifactory/pro-5.3.1/webapps/
  inflating: artifactory/pro-5.3.1/webapps/artifactory.war
  creating: artifactory/pro-5.3.1/tomcat/
  creating: artifactory/pro-5.3.1/tomcat/webapps/
  creating: artifactory/pro-5.3.1/tomcat/webapps/ROOT/
  creating: artifactory/pro-5.3.1/tomcat/bin/
  creating: artifactory/pro-5.3.1/tomcat/work/
  creating: artifactory/pro-5.3.1/tomcat/conf/
  creating: artifactory/pro-5.3.1/tomcat/conf/Catalina/
  creating: artifactory/pro-5.3.1/tomcat/conf/Catalina/localhost/
  creating: artifactory/pro-5.3.1/tomcat/bin/bootstrap.jar
  creating: artifactory/pro-5.3.1/tomcat/bin/tomcat-juli.jar
  creating: artifactory/pro-5.3.1/logs/
  creating: artifactory/pro-5.3.1/etc/
  creating: artifactory/pro-5.3.1/msc/
  creating: artifactory/pro-5.3.1/msc/tomcat/
  creating: artifactory/pro-5.3.1/msc/tomcat/
  creating: artifactory/pro-5.3.1/msc/db/createdb/
  creating: artifactory/pro-5.3.1/msc/service/
  creating: artifactory/pro-5.3.1/msc/ha/
  creating: artifactory/pro-5.3.1/bin/
  inflating: artifactory/pro-5.3.1/tomcat/webapps/ROOT/index.html
  inflating: artifactory/pro-5.3.1/tomcat/lib/commons-util-native.jar
  inflating: artifactory/pro-5.3.1/tomcat/lib/tomcat-util.jar
  inflating: artifactory/pro-5.3.1/tomcat/lib/annotations-api.jar
  inflating: artifactory/pro-5.3.1/tomcat/lib/servlet-api.jar
  inflating: artifactory/pro-5.3.1/tomcat/lib/catalina.jar
  inflating: artifactory/pro-5.3.1/tomcat/lib/juli-api.jar
  inflating: artifactory/pro-5.3.1/tomcat/lib/el-api.jar
  inflating: artifactory/pro-5.3.1/tomcat/lib/tomcat-jni.jar
  inflating: artifactory/pro-5.3.1/tomcat/lib/tomcat-coyote.jar
  inflating: artifactory/pro-5.3.1/tomcat/conf/logging.properties
  inflating: artifactory/pro-5.3.1/tomcat/conf/web.xml
  inflating: artifactory/pro-5.3.1/tomcat/conf/catalina.policy
  inflating: artifactory/pro-5.3.1/tomcat/conf/server.xml
  inflating: artifactory/pro-5.3.1/tomcat/conf/Catalina/localhost/artifactory.xml
  inflating: artifactory/pro-5.3.1/tomcat/conf/catalina.properties
  inflating: artifactory/pro-5.3.1/tomcat/conf/RUNNING.txt
  inflating: artifactory/pro-5.3.1/tomcat/conf/EACCNOTES
  inflating: artifactory/pro-5.3.1/tomcat/LICENSE
  inflating: artifactory/pro-5.3.1/tomcat/bin/catalina.sh
  inflating: artifactory/pro-5.3.1/tomcat/bin/bootstrap.jar
  inflating: artifactory/pro-5.3.1/tomcat/bin/tomcat-native.tar.gz
  inflating: artifactory/pro-5.3.1/tomcat/bin/tomcat-native.sh
  inflating: artifactory/pro-5.3.1/tomcat/bin/catalina.sh
  inflating: artifactory/pro-5.3.1/tomcat/bin/catalina.bat
  inflating: artifactory/pro-5.3.1/tomcat/bin/version.bat
  inflating: artifactory/pro-5.3.1/tomcat/bin/digest.bat
  inflating: artifactory/pro-5.3.1/tomcat/bin/tomcat-juli.jar
  inflating: artifactory/pro-5.3.1/tomcat/bin/tomcat-juli.jar
  inflating: artifactory/pro-5.3.1/tomcat/bin/tomcat-juli.bat
  inflating: artifactory/pro-5.3.1/tomcat/bin/tomcat-juli.bat
  inflating: artifactory/pro-5.3.1/tomcat/bin/commons-daemon-native.tar.gz
  inflating: artifactory/pro-5.3.1/tomcat/bin/setclasspath.bat
  inflating: artifactory/pro-5.3.1/tomcat/bin/commons-daemon.jar
  inflating: artifactory/pro-5.3.1/tomcat/bin/digest.sh
  inflating: artifactory/pro-5.3.1/tomcat/bin/tomcat-juli.bat
  inflating: artifactory/pro-5.3.1/tomcat/bin/version.bat
```

open terminal and navigate Downloads directory and execute the following commands

sudo apt-get zip unzip (To Install Unzip to extract the downloaded file)

```
# sudo unzip jfrog-artifactory-pro-5.3.1 ( To extract jfrog-artifactory-pro-5.3.1)
```

Before running Jfrog services please ensure the essentials like JAVA, GIT, MAVEN and JENKINS are installed. For my convenience, I have written a script to install all the prerequisites.

(Creating a file with name “script.sh”)

```
# vi script.sh
```

(Copy paste the below script and run it using the following command)

```
# bash script.sh
```

```
#!/bin/bash
```

```
yum --help >> /tmp/log1
```

if [\$? -eq 0]

then

```
echo "BPM Based OS Detected"
```

```
echo "Installing Java-JDK Jenkins Maven"
```

sleep 3

```
sudo yum install java-1.8.0-openjdk -y
```

```
sudo yum install java-1.8.0-openjdk-devel -y
```

```
sudo yum install wget -y
```

```
sudo wget -O /etc/yum.repos.d/jenkins.repo http://pkg.jenkins-ci.org/redhat/jenkins.repo
```

```
sudo rpm --import https://jenkins-ci.org/redhat/jenkins-ci.org.key
```

```
sudo rpm -Uvh https://jenkins-ci.org/redhat/jenkins-2.22.1-1.el7.noarch.rpm
```

sudo yum install jenkins -y

```
sudo yum install git -v
```

```
echo "Configuring services Please Wait"
```

sleep 5

Visualpath Training & Consulting.

Visualpath Training & Consulting.
Flat no: 205, Nilgiri Block, Aditya Enclave, Ameerpet, Hyderabad, Phone No: - +91-970 445 5959, 961 824 5689 E-Mail ID : online.visualpath@gmail.com. Website : www.visualpath.in.

```

sudo service iptables stop
sudo service jenkins start

else
echo "Debian Based OS Detected"
sleep 3
echo "Installing Java-JDK,Jenkins,Maven"
sudo apt-get update
sudo apt-get install openjdk-8-jdk -y
sudo apt-get install openjdk-8-jre -y
sudo apt-get install maven -y
sudo apt-get install wget -y
wget -q -O - https://pkg.jenkins.io/debian/jenkins-ci.org.key | sudo apt-key add -
sudo sh -c 'echo deb http://pkg.jenkins.io/debian-stable binary/ > /etc/apt/sources.list.d/jenkins.list'
sudo apt-get update -y
sudo apt-get install jenkins -y
sudo apt-get install git -y
echo "Configuring services.... Please Wait"
sleep 5
sudo systemctl stop ufw
sudo systemctl start jenkins
fi

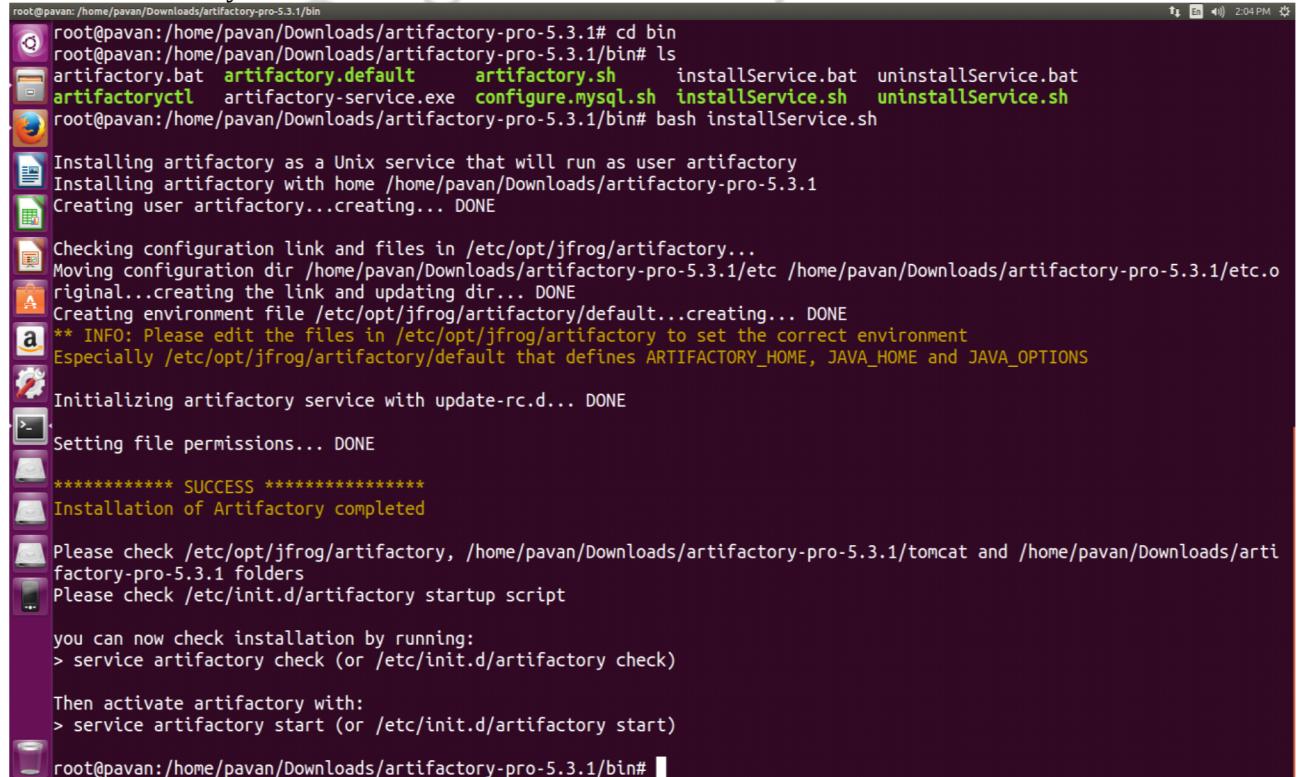
```

After installation of JAVA, Maven, git and Jenkins, navigate to below directory to start the Jfrog services.

```

# cd Downloads\artifactory-pro-5.3.1\bin
# bash installservices.sh
# bash artifactory.sh

```



```

root@pavan:/home/pavan/Downloads/artifactory-pro-5.3.1/bin#
root@pavan:/home/pavan/Downloads/artifactory-pro-5.3.1# cd bin
root@pavan:/home/pavan/Downloads/artifactory-pro-5.3.1/bin# ls
artifactory.bat  artifactory.default  artifactory.sh  installService.bat  uninstallService.bat
artifactoryctl  artifactory-service.exe  configure.mysql.sh  installService.sh  uninstallService.sh
root@pavan:/home/pavan/Downloads/artifactory-pro-5.3.1/bin# bash installService.sh

Installing artifactory as a Unix service that will run as user artifactory
Installing artifactory with home /home/pavan/Downloads/artifactory-pro-5.3.1
Creating user artifactory...creating... DONE

Checking configuration link and files in /etc/opt/jfrog/artifactory...
Moving configuration dir /home/pavan/Downloads/artifactory-pro-5.3.1/etc /home/pavan/Downloads/artifactory-pro-5.3.1/etc.o
riginal...creating the link and updating dir... DONE
Creating environment file /etc/opt/jfrog/artifactory/default...creating... DONE
** INFO: Please edit the files in /etc/opt/jfrog/artifactory to set the correct environment
Especially /etc/opt/jfrog/artifactory/default that defines ARTIFACTORY_HOME, JAVA_HOME and JAVA_OPTIONS

Initializing artifactory service with update-rc.d... DONE
Setting file permissions... DONE
*****
Installation of Artifactory completed

Please check /etc/opt/jfrog/artifactory, /home/pavan/Downloads/artifactory-pro-5.3.1/tomcat and /home/pavan/Downloads/arti
factory-pro-5.3.1 folders
Please check /etc/init.d/artifactory startup script

you can now check installation by running:
> service artifactory check (or /etc/init.d/artifactory check)

Then activate artifactory with:
> service artifactory start (or /etc/init.d/artifactory start)

root@pavan:/home/pavan/Downloads/artifactory-pro-5.3.1/bin# 

```

```

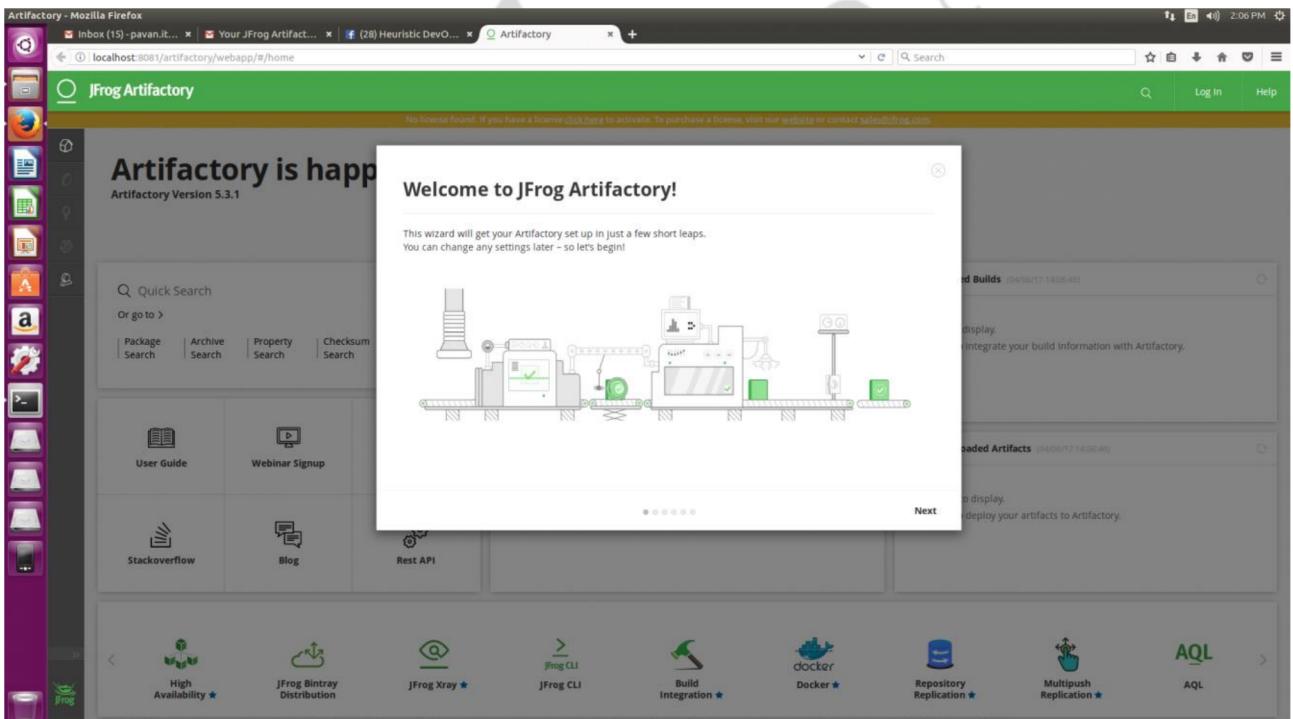
root@pavan:~/home/pavan/Downloads/artifactory-pro-5.3.1/bin
Please check /etc/init.d/artifactory startup script
you can now check installation by running:
> service artifactory check (or /etc/init.d/artifactory check)

Then activate artifactory with:
> service artifactory start (or /etc/init.d/artifactory start)

root@pavan:~/home/pavan/Downloads/artifactory-pro-5.3.1/bin#
root@pavan:~/home/pavan/Downloads/artifactory-pro-5.3.1/bin# ./artifactory.sh
Using ARTIFACTORY_HOME: /home/pavan/Downloads/artifactory-pro-5.3.1/run/artifactory.pid
Using ARTIFACTORY_TMPDIR: /home/pavan/Downloads/artifactory-pro-5.3.1/tmp
Using CATALINA_HOME: /home/pavan/Downloads/artifactory-pro-5.3.1/tomcat
Using CATALINA_PID: /home/pavan/Downloads/artifactory-pro-5.3.1/tomcat/temp
Using CLASSPATH: /home/pavan/Downloads/artifactory-pro-5.3.1/tomcat/bin/bootstrap.jar:/home/pavan/Downloads/artifactory-pro-5.3.1/tomcat/bin/tomcat-juli.jar
Jun 04, 2017 2:05:21 PM org.apache.tomcat.util.net.NioSelectorPool getSharedSelector
INFO: Initializing ProtocolHandler ["http-nio-8081"]
Jun 04, 2017 2:05:21 PM org.apache.tomcat.util.net.NioSelectorPool getSharedSelector
INFO: Initializing ProtocolHandler ["ajp-nio-8019"]
Jun 04, 2017 2:05:21 PM org.apache.tomcat.util.net.NioSelectorPool getSharedSelector
INFO: Using a shared selector for servlet write/read
Jun 04, 2017 2:05:21 PM org.apache.catalina.core.StandardService startInternal
INFO: Starting Service [Artifactory]
Jun 04, 2017 2:05:21 PM org.apache.catalina.core.StandardEngine startInternal
INFO: Starting Servlet Engine: Apache Tomcat/8.0.41
Jun 04, 2017 2:05:21 PM org.apache.catalina.startup.HostConfig deployDescriptor
INFO: Deploying configuration descriptor /home/pavan/Downloads/artifactory-pro-5.3.1/tomcat/conf/Catalina/localhost/artifactory.xml
2017-06-04 14:05:31 [ARTIFACTORY] [INFO] Starting Artifactory [artifactory.home=/home/pavan/Downloads/artifactory-pro-5.3.1/tomcat/conf/Catalina/localhost/artifactory.xml] - Refreshing Artifactory: startup date [Sun Jun 04 14:05:31 IST 2017]; root of context hierarchy
2017-06-04 14:05:31 [ARTIFACTORY] [INFO] [o.a.s.a.AccessApplicationContext@23] - Refreshing org.jfrog.access.server.AccessApplicationContext@346254c: startup date [Sun Jun 04 14:05:31 IST 2017]; root of context hierarchy
2017-06-04 14:05:32.462 [localhost-startStop-1] [INFO] [o.a.s.d.u.Access3dHelper@72] - Database: Apache Derby 10.11.1.1 - (1616546), Driver: Apache Derby Embedded JDBC Driver 10.11.1.1 - (1616546)
2017-06-04 14:05:32.463 [localhost-startStop-1] [INFO] [o.a.s.d.u.Access3dHelper@83] - ***Creating database schema***
2017-06-04 14:05:33.294 [localhost-startStop-1] [INFO] [o.a.s.s.TokenServiceImpl@73] - Scheduling task for revoking expired tokens using cron expression: 0 0 0/1 * * ?
2017-06-04 14:05:34.025 [localhost-startStop-1] [INFO] [o.a.s.s.AccessServerBootstrap@182] - [ACCESS BOOTSTRAP] Server name not found in access properties. Setting server name: b9cc84fd-b910-4414-9c32-9f7f2cd63e23
2017-06-04 14:05:34.041 [localhost-startStop-1] [INFO] [o.a.s.s.AccessServerBootstrap@171] - [ACCESS BOOTSTRAP] Updating server: 'b9cc84fd-b910-4414-9c32-9f7f2cd63e23' private key finger print to: be7e4eed74d587ac6ed663f61e879e48a5843afa6740ab22ec10386d68bd9
2017-06-04 14:05:34.198 [localhost-startStop-1] [INFO] [o.a.s.v.c.EnvironmentConversionRunner@31] - [ACCESS BOOTSTRAP] No admin user exists - creating default admin user
2017-06-04 14:05:34.245 [art-init] [INFO] [o.a.s.ArtifactoryContextConfigListener@269] - Running environment post bootstrap conversion for version 1.0.0
2017-06-04 14:05:34.312 [art-init] [INFO] [o.a.s.ArtifactoryApplicationContext@433] - Artifactory application context set to NOT READY by refresh
2017-06-04 14:05:34.312 [art-init] [INFO] [o.a.s.ArtifactoryApplicationContext@213] - Refreshing Artifactory: startup date [Sun Jun 04 14:05:34 IST 2017]; root of context hierarchy
Jun 04, 2017 2:05:34 PM org.apache.catalina.startup.HostConfig deployDirectory
INFO: Deployment of configuration descriptor /home/pavan/Downloads/artifactory-pro-5.3.1/tomcat/conf/Catalina/localhost/artifactory.xml has finished in 13,240 ms
Jun 04, 2017 2:05:34 PM org.apache.catalina.startup.HostConfig deployDirectory
INFO: Deployment of web application directory /home/pavan/Downloads/artifactory-pro-5.3.1/tomcat/webapps/ROOT has finished in 41 ms
Jun 04, 2017 2:05:34 PM org.apache.catalina.startup.HostConfig deployDirectory
INFO: Starting ProtocolHandler ["http-nio-8081"]
Jun 04, 2017 2:05:34 PM org.apache.catalina.startup.HostConfig deployDirectory
INFO: Starting ProtocolHandler ["ajp-nio-8019"]
2017-06-04 14:05:37.281 [art-init] [INFO] [o.a.s.d.ObserveServiceImpl@191] - Database: Apache Derby 10.11.1.1 - (1616546). Driver: Apache Derby Embedded JDBC Driver 10.11.1.1 - (1616546)
2017-06-04 14:05:37.282 [art-init] [INFO] [o.a.s.d.ObserveServiceImpl@191] - Connection URL: jdbc:derby:/home/pavan/Downloads/artifactory-pro-5.3.1/data/derby
2017-06-04 14:05:37.299 [art-init] [INFO] [o.a.s.d.ObserveServiceImpl@187] - ***Creating database schema***
```

Artifactory Pro

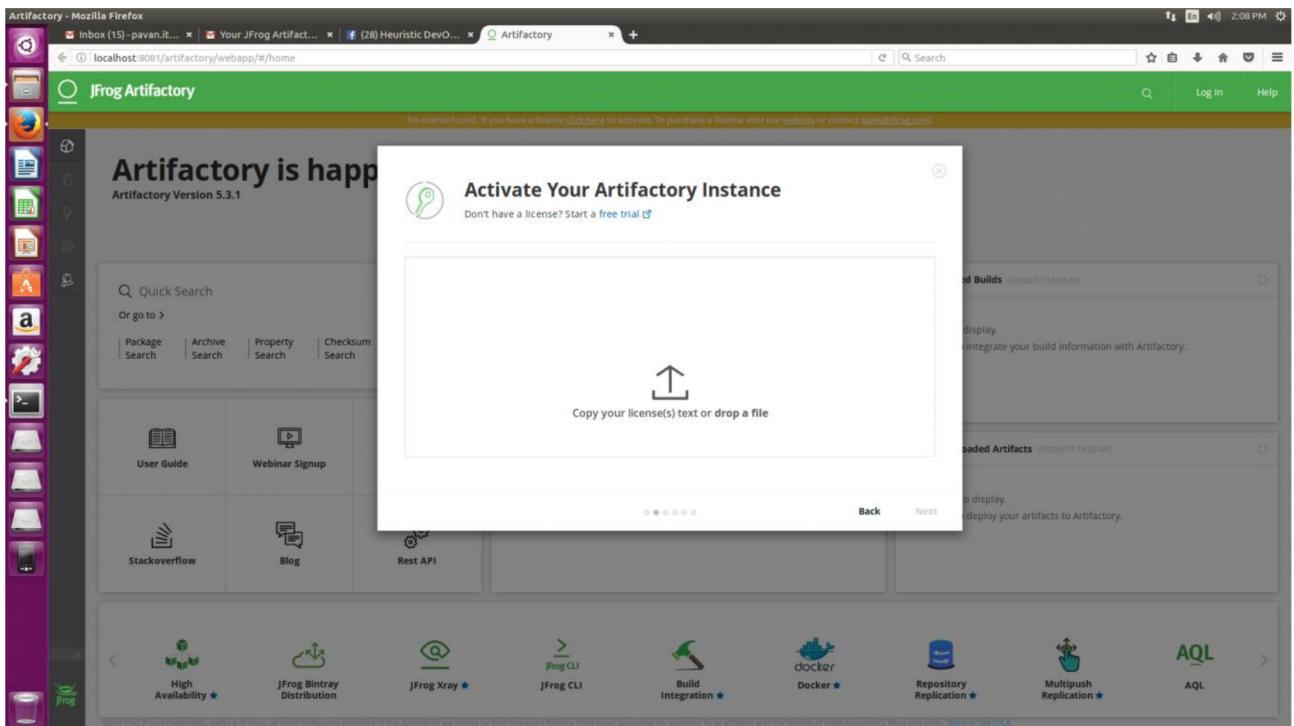
Open Browser and type “<IP>:8081/artifactory”.



register your copy of J-Frog

Visualpath Training & Consulting.

Flat no: 205, Nilgiri Block, Aditya Enclave, Ameerpet, Hyderabad, Phone No: +91-970 445 5959, 961 824 5689 E-Mail ID : online.visualpath@gmail.com, Website : www.visualpath.in.

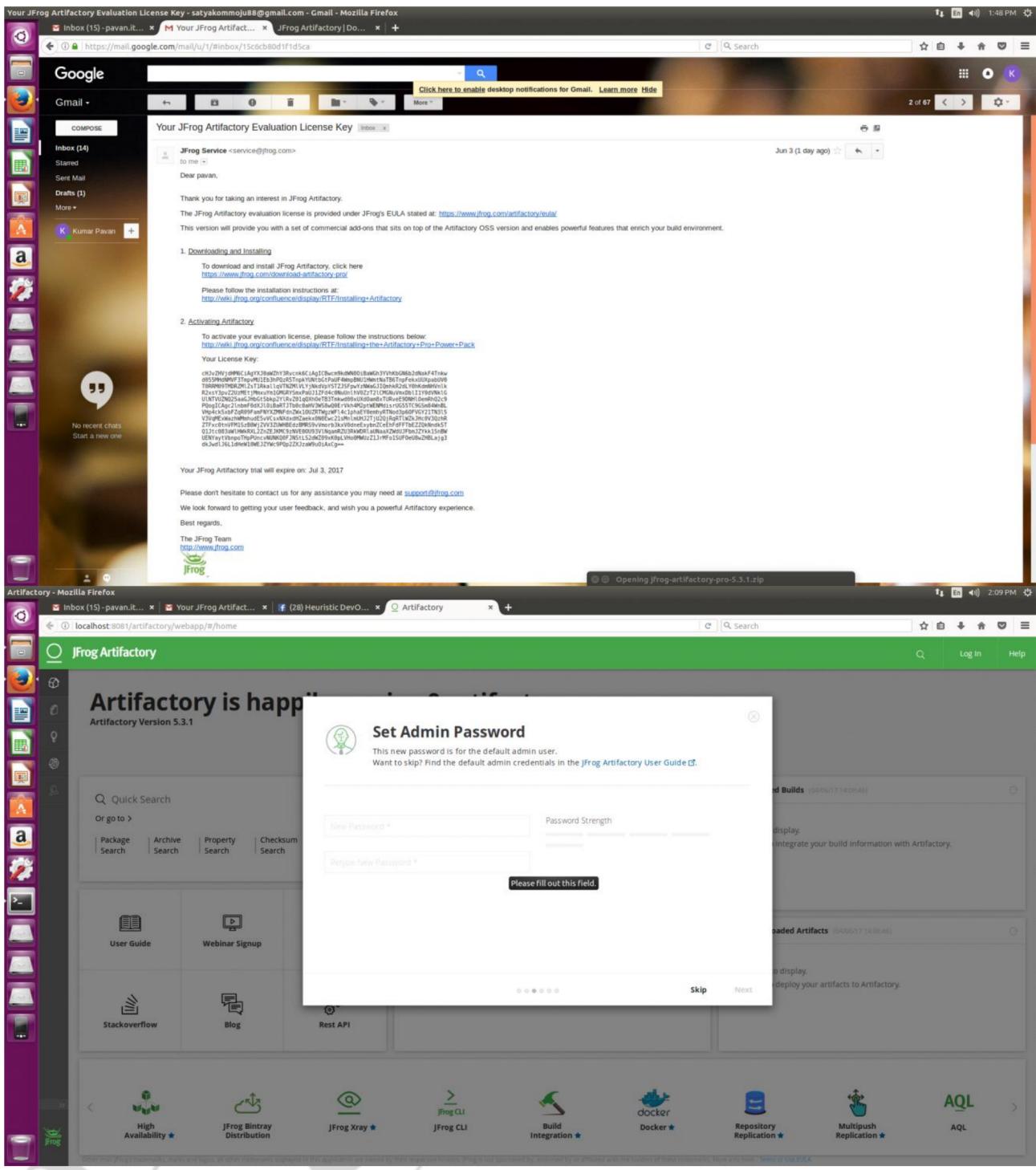


Skip Proxy Configuration

LAYER VISUALIZER

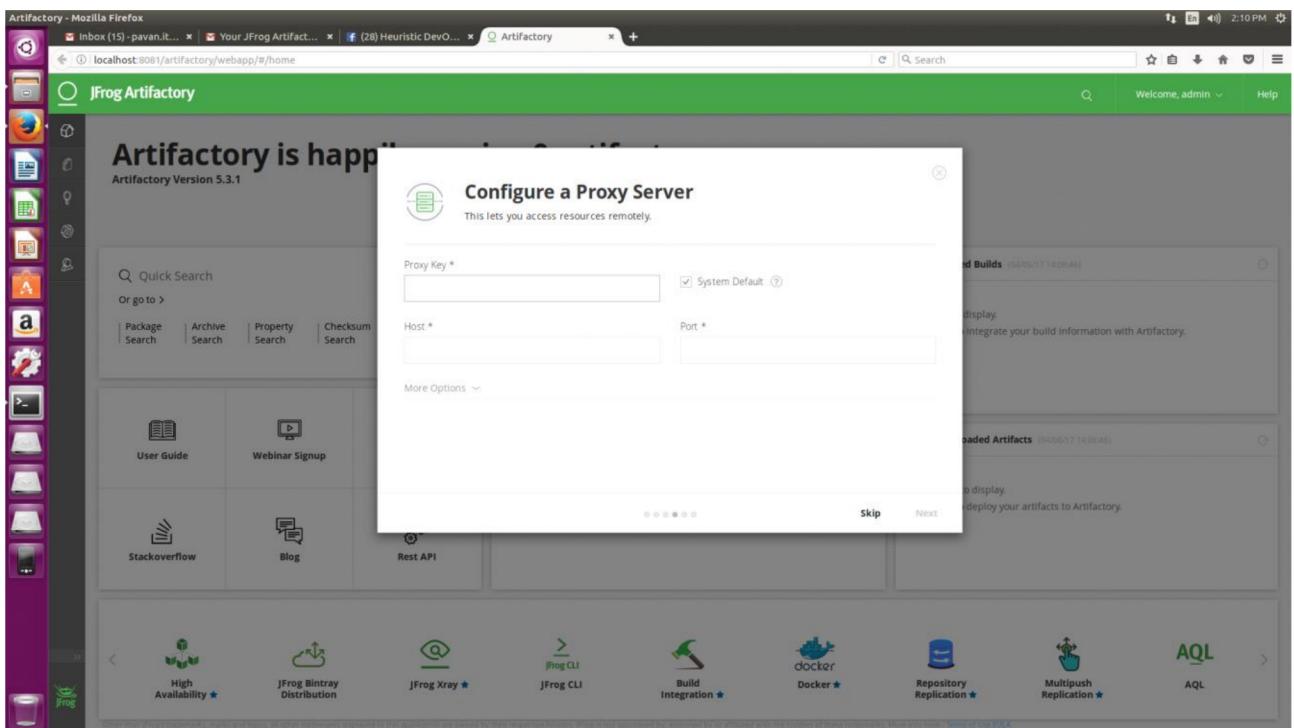
Visualpath Training & Consulting.

Flat no: 205, Nilgiri Block, Aditya Enclave, Ameerpet, Hyderabad, Phone No: +91-970 445 5959, 961 824 5689 E-Mail ID : online.visualpath@gmail.com, Website : www.visualpath.in.

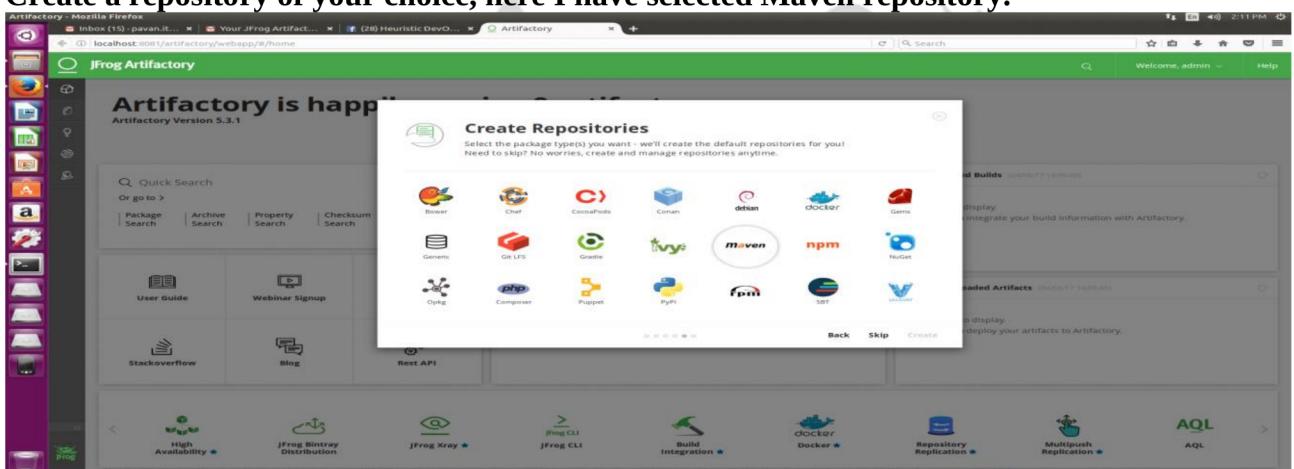


Visualpath Training & Consulting.

Visual Path Training & Consulting
Flat no: 205, Nilgiri Block, Aditya Enclave, Ameerpet, Hyderabad, Phone No: - +91-970 445 5959, 961 824 5689 E-Mail ID : online.visualpath@gmail.com, Website : www.visualpath.in.



Create a repository of your choice, here I have selected Maven repository.



Now, let us build a sample maven project.

Go to git hub and download [jfrogdev/project-examples](#)

```
#cd /home  
#git clone https://github.com/JfrogDev/project-examples.git
```

Visualpath Training & Consulting.

Flat no: 205, Nilgiri Block, Aditya Enclave, Ameerpet, Hyderabad, Phone No: +91-970 445 5959, 961 824 5689 E-Mail ID : online.visualpath@gmail.com, Website : www.visualpath.in.

```

root@pavan: /home
root@pavan:/home# ls
pavan
root@pavan:/home# git clone https://github.com/JFrogDev/project-examples.git
Cloning into 'project-examples'...
remote: Counting objects: 3621, done.
remote: Total 3621 (delta 0), reused 0 (delta 0), pack-reused 3621
Receiving objects: 100% (3621/3621), 4.96 MB | 1.55 MB/s, done.
Resolving deltas: 100% (1777/1777), done.
Checking connectivity... done.
root@pavan:/home#

```

```
# cd /home/project-examples/artifactory-maven-plugin-example#
```

Now let us create a separate local repository to store our build.

Open admin tab and press local repository as shown below

Artifactory - Mozilla Firefox

192.168.1.2:8081/artifactory/webapp/#/home

JFrog Artifactory

Welcome, admin

Artifactory is happily serving 0 artifacts

Artifactory Version 5.3.1 (Uptime is 0d 0h 34m 23s)

Latest Release: 5.3.1

Set Me Up

Quick Search

User Guide

Stackoverflow

Webinar Signup

Blog

Support Portal

Rest API

High Availability

JFrog Bintray Distribution

JFrog Xray

JFrog CLI

Build Integration

Docker

Repository Replication

Multipush Replication

AQL

Create Repositories

- Quick Setup
- Local Repository
- Remote Repository
- Virtual Repository
- Distribution Repository

Add User

Add Group

Add Permission

Edit Profile

Log Out

Last Deployed Builds

new_test #3

Most Downloaded Artifacts

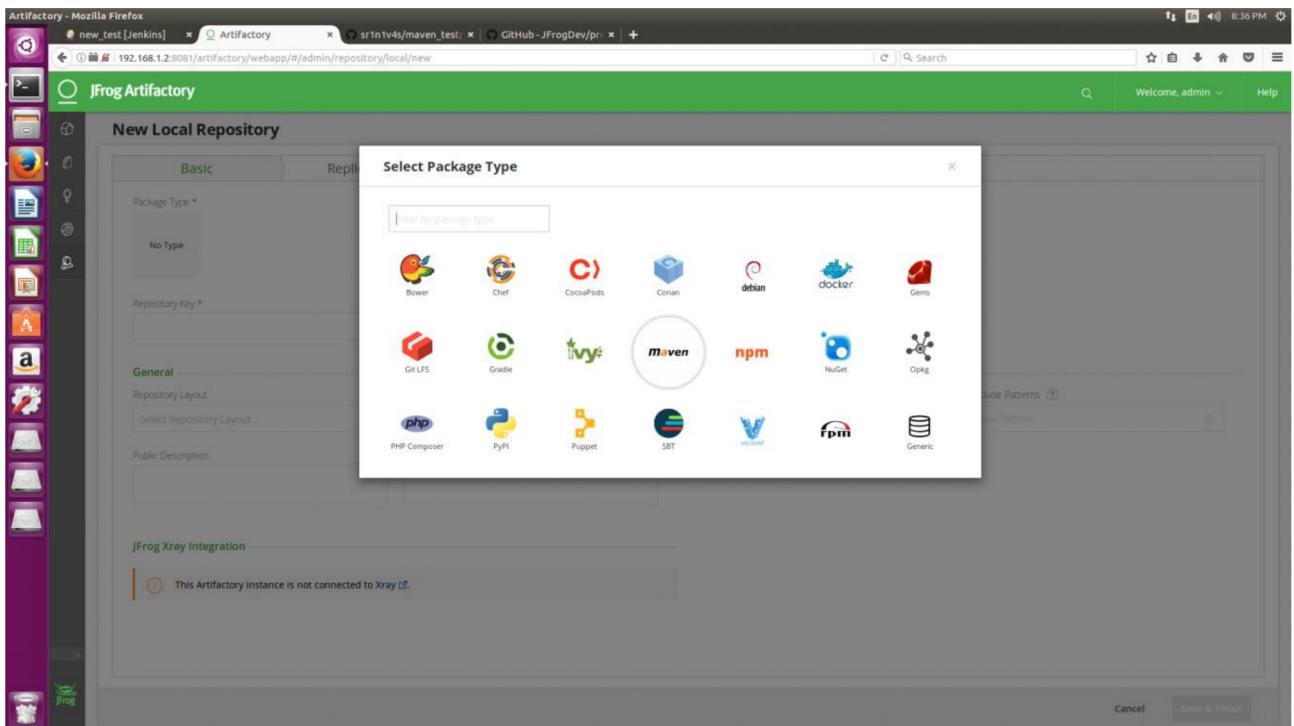
No artifacts to display.

Learn how to deploy your artifacts to Artifactory.

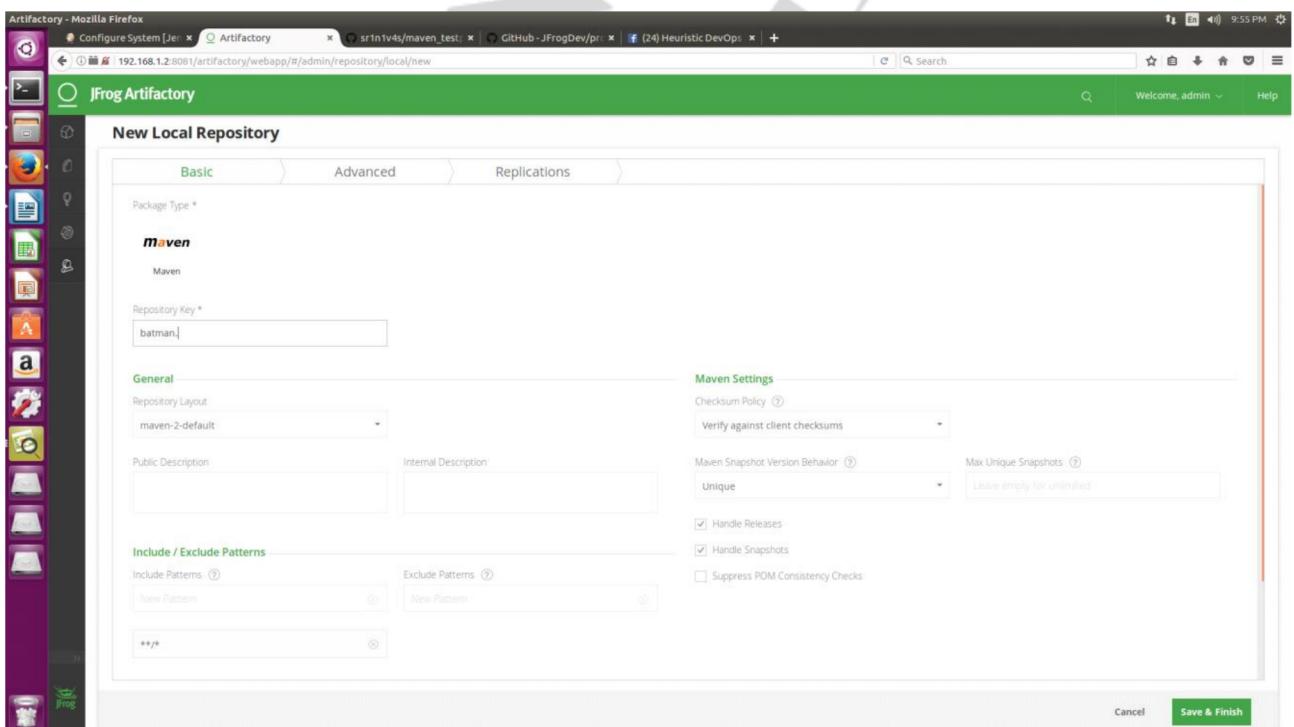
Select the type of repository: MAVEN

Visualpath Training & Consulting.

Flat no: 205, Nilgiri Block, Aditya Enclave, Ameerpet, Hyderabad, Phone No: +91-970 445 5959, 961 824 5689 E-Mail ID : online.visualpath@gmail.com, Website : www.visualpath.in.



type the repository name and press save



Now in order to tell maven where to copy the artefact after building the code. we need to edit the pom.xml of the code.

In the Jfrog Artifactory home page press SET ME UP and copy the deployment snippet and paste it in your pom.xml file

```
# cd /home/project-examples/artifactory-maven-plugin-example  
# vi pom.xml
```

Visualpath Training & Consulting.

Flat no: 205, Nilgiri Block, Aditya Enclave, Ameerpet, Hyderabad, Phone No: - +91-970 445 5959, 961 824 5689 E-Mail ID : online.visualpath@gmail.com, Website : www.visualpath.in.