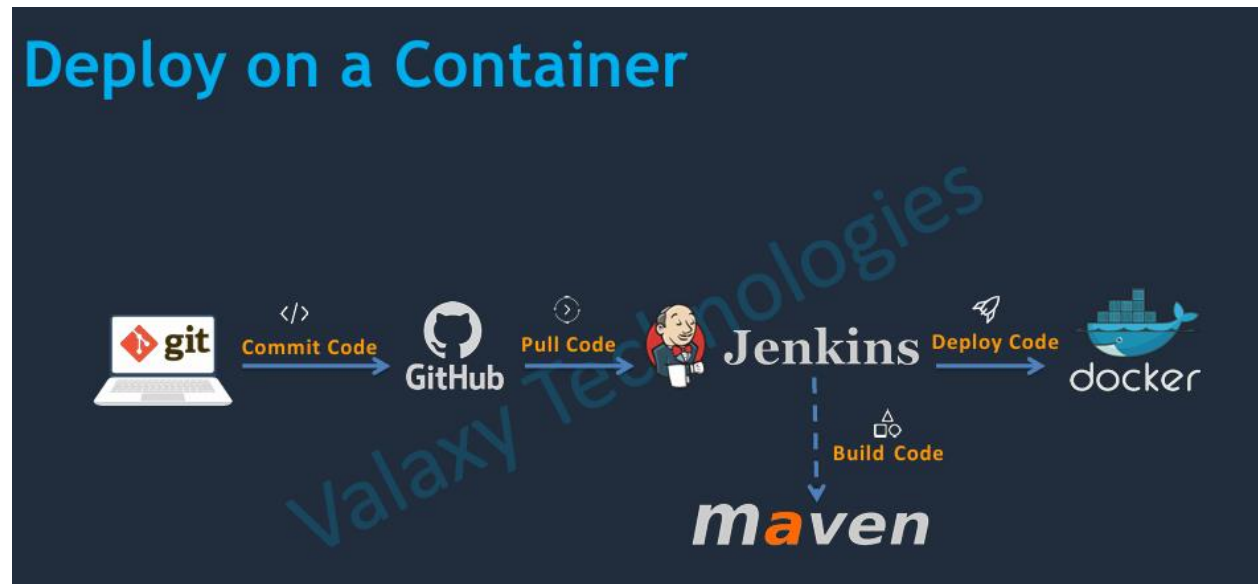


In this section we are going to see how we can deploy our code on a docker container.

We have already set up GitHub i mean to say we going to pull the code and build with the help of maven and deploy it on your VM.

Instead of VM we are going to deploy it in a docker container.



For that we need to setup docker env

## Setup Docker Host

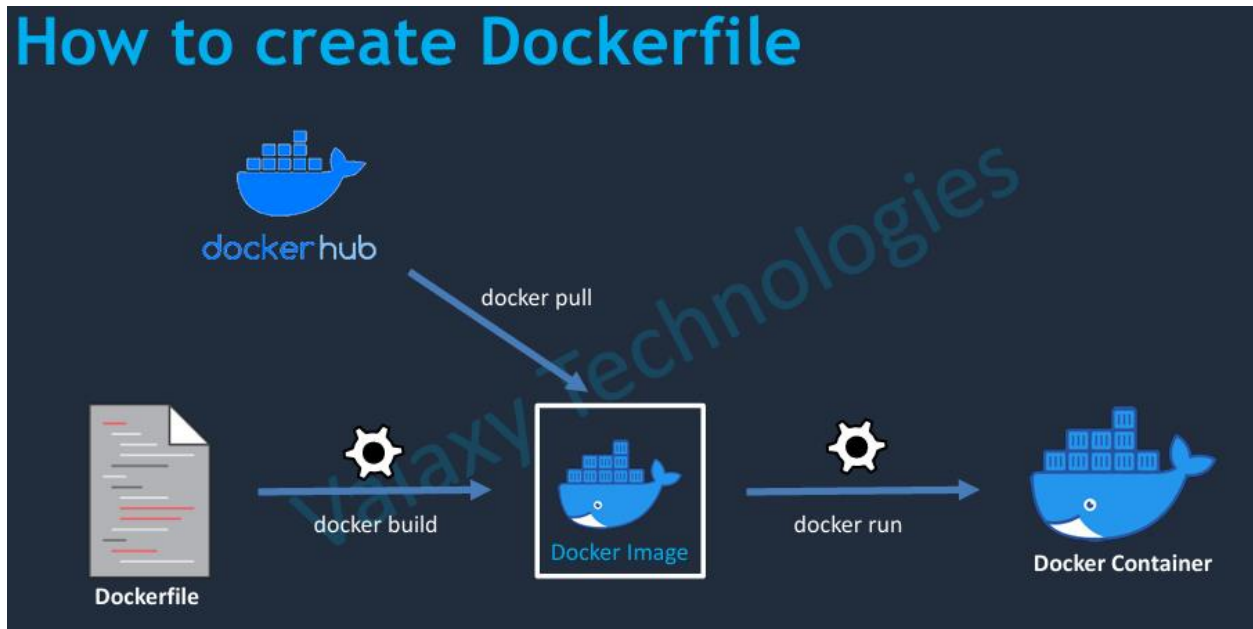
- Setup a Linux EC2 Instance
- Install docker
- Start docker services
- Basic docker commands

The Docker logo is shown on the right side of the slide, featuring a blue whale with a stack of colorful containers on its back.

1 yum install docker

2 service docker status

- 3 service docker start
- 4 service docker status
- 5 docker images
- 6 docker ps -a
- 7 docker ps
- 8 hostnamectl set-hostname docker
- 9 bash



Two way to create docker container one is pull the image from docker hub create a container and second is create docker file with your basic image and add you own customization and build dockerfile to create image using docker run command you can create your container.

We are pull the image from docker hub and create container

Create Tomcat server.



tomcat

Docker Official Image · 500M+ · 3.7K

Apache Tomcat is an open source implementation of the Java Servlet and JavaServer Pages technologies

docker pull tomcat

Copy

Overview Tags

## Quick reference

- Maintained by:  
the Docker Community

## Recent Tags

10.1.24-jre21-temurin-jammy 10.1.24-jre21-temurin  
10.1.24-jre21 10.1.24-jre17-temurin-jammy  
10.1.24-jre17-temurin 10.1.24-jre17

```
[root@docker ~]# history
 1 history
 2 exit
 3 docker pull tomcat
 4 docker image
 5 docker images
 6 docker run -dit --name tomcat-container -p 8081:8080
 7 docker images
 8 docker run -dit --name tomcat-container -p 8081:8080 tomcat
 9 docker ps -a
10 image
11 history
[root@docker ~]#
```

← → ↺ ⚠ Not secure | 13.127.203.133:8081

## HTTP Status 404 – Not Found

Type Status Report

Description The origin server did not find a current representation for the target resource or is not willing to disclose that one exists.

Apache Tomcat/10.1.24

Fixing tomcat container issue.

```
[root@docker ~]# docker ps -a
CONTAINER ID   IMAGE     COMMAND                  CREATED        STATUS        PORTS                               NAMES
c29f0e289647   tomcat    "catalina.sh run"       8 minutes ago Up 8 minutes  0.0.0.0:8081->8080/tcp, :::8081->8080/tcp  tomcat-container


[root@docker ~]#
[root@docker ~]# docker exec -ti tomcat-container /bin/bash
root@c29f0e289647:/usr/local/tomcat# ls
bin  BUILDING.txt  conf  CONTRIBUTING.md  lib  LICENSE  logs  native-jni-lib  NOTICE  README.md  RELEASE-NOTES  RUNNING.txt  temp  webapps  webapps.dist  work
root@c29f0e289647:/usr/local/tomcat#
root@c29f0e289647:/usr/local/tomcat# cd webapps
root@c29f0e289647:/usr/local/tomcat/webapps# ls
root@c29f0e289647:/usr/local/tomcat/webapps#
root@c29f0e289647:/usr/local/tomcat/webapps# cd ..
root@c29f0e289647:/usr/local/tomcat#
root@c29f0e289647:/usr/local/tomcat# ls
bin  BUILDING.txt  conf  CONTRIBUTING.md  lib  LICENSE  logs  native-jni-lib  NOTICE  README.md  RELEASE-NOTES  RUNNING.txt  temp  webapps  webapps.dist  work
root@c29f0e289647:/usr/local/tomcat#
root@c29f0e289647:/usr/local/tomcat# cd webapps.dist/
root@c29f0e289647:/usr/local/tomcat/webapps.dist#
root@c29f0e289647:/usr/local/tomcat/webapps.dist# ls
docs  examples  host-manager  manager  ROOT
root@c29f0e289647:/usr/local/tomcat/webapps.dist#
root@c29f0e289647:/usr/local/tomcat/webapps.dist# cp -R * ../webapps/
root@c29f0e289647:/usr/local/tomcat/webapps.dist#
root@c29f0e289647:/usr/local/tomcat/webapps.dist# cd ../webapps
root@c29f0e289647:/usr/local/tomcat/webapps# ls
docs  examples  host-manager  manager  ROOT
root@c29f0e289647:/usr/local/tomcat/webapps#
root@c29f0e289647:/usr/local/tomcat/webapps#
```

Not secure
13.127.203.133:8081


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Home
Documentation
Configuration
Examples
Wiki
Mailing Lists
Find Help

## Apache Tomcat/10.1.24



If you're seeing this, you've successfully installed Tomcat. Congratulations!



Recommended Reading:
[Security Considerations How-To](#)
[Manager Application How-To](#)
[Clustering/Session Replication How-To](#)

Server Status
Manager App
Host Manager

Developer Quick Start

Tomcat Setup
First Web Application
Realms & AAA
JDBC Data Sources
Examples
Servlet Specifications
Tomcat Versions

```
[root@docker ~]# docker ps -a
CONTAINER ID   IMAGE     COMMAND                  CREATED        STATUS        PORTS                               NAMES
c29f0e289647   tomcat    "catalina.sh run"       17 minutes ago Up 17 minutes  0.0.0.0:8081->8080/tcp, :::8081->8080/tcp  tomcat-container

[root@docker ~]#
[root@docker ~]# docker stop tomcat-container
tomcat-container
[root@docker ~]#
[root@docker ~]# docker ps -a
CONTAINER ID   IMAGE     COMMAND                  CREATED        STATUS        PORTS                               NAMES
c29f0e289647   tomcat    "catalina.sh run"       18 minutes ago Exited (143) 3 seconds ago                tomcat-container

[root@docker ~]#
[root@docker ~]# docker image

Usage: docker image COMMAND

Manage images

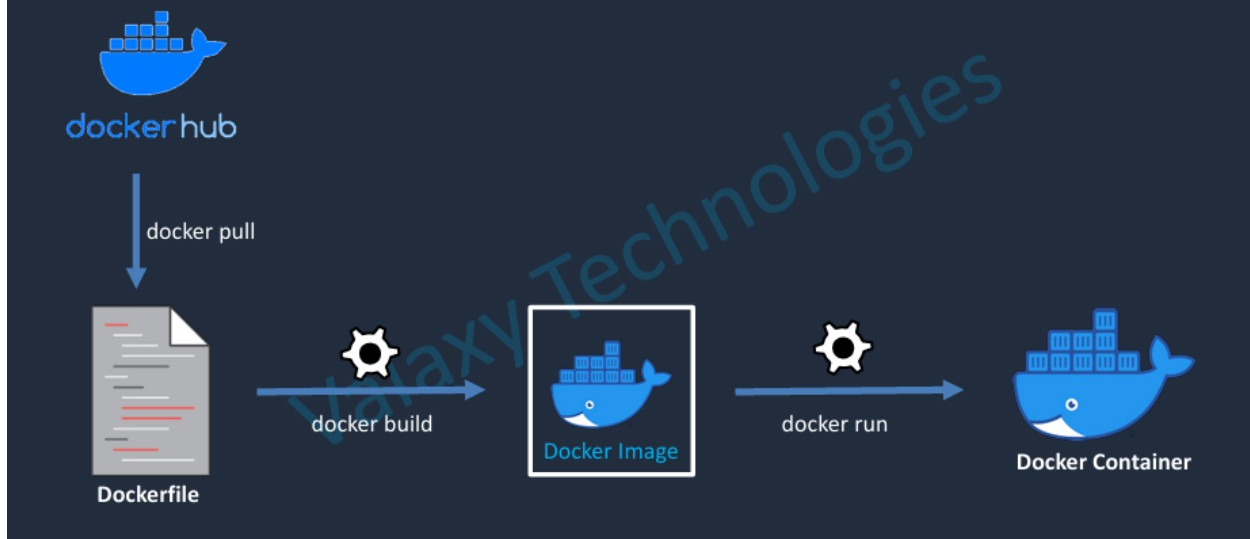
Commands:
build      Build an image from a Dockerfile
history    Show the history of an image
import     Import the contents from a tarball to create a filesystem image
inspect    Display detailed information on one or more images
load       Load an image from a tar archive or STDIN
ls         List images
prune      Remove unused images
pull       Pull an image or a repository from a registry
push       Push an image or a repository to a registry
rm         Remove one or more images
save       Save one or more images to a tar archive (streamed to STDOUT by default)
tag        Create a tag TARGET_IMAGE that refers to SOURCE_IMAGE

Run 'docker image COMMAND --help' for more information on a command.
[root@docker ~]#
[root@docker ~]# docker images
REPOSITORY    TAG       IMAGE ID       CREATED        SIZE
tomcat        latest   5a4ee0c8ccbe   2 days ago     455MB

[root@docker ~]#
[root@docker ~]# docker run -dit --name tomcat2 -p 8082:8080 tomcat
d26377211e4354568cb8ce96443af085a1ade024eb82b06abb217c552b075478
[root@docker ~]#
[root@docker ~]# docker ps -a
CONTAINER ID   IMAGE     COMMAND                  CREATED        STATUS        PORTS                               NAMES
d26377211e43   tomcat    "catalina.sh run"       5 seconds ago Up 4 seconds  0.0.0.0:8082->8080/tcp, :::8082->8080/tcp  tomcat2
c29f0e289647   tomcat    "catalina.sh run"       18 minutes ago Exited (143) 43 seconds ago                tomcat-container

[root@docker ~]#
```

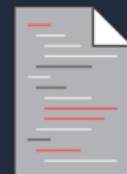
# How to create docker container



Create a first docker file.

## Write Your 1<sup>st</sup> Docker File

- **FROM:** To pull the base image
- **RUN:** To execute commands
- **CMD:** To provide defaults for an executing container
- **ENTRYPOINT:** To configure a container that will run as an executable
- **WORKDIR:** To sets the working directory
- **COPY:** To copy a directory from your local machine to the docker container
- **ADD:** To copy files and folders from your local machine to docker containers
- **EXPOSE:** Informs Docker that the container listens on the specified network ports at runtime
- **ENV:** To set environment variables



Dockerfile

# Install tomcat on Centos

- Pull centos from dockerhub - **FROM**
- Install java - **RUN**
- Create /opt/tomcat directory - **RUN**
- Change work directory to /opt/tomcat - **WORKDIR**
- Download tomcat packages - **ADD /RUN**
- Extract tar.gz file - **RUN**
- Rename to tomcat directory - **RUN**
- Tell to docker that it runs on port 8080 - **EXPOSE**
- Start tomcat services - **CMD**



Dockerfile

```
[root@docker ~]# vim Dockerfile
[root@docker ~]#
[root@docker ~]# cat Dockerfile
FROM centos:7
RUN yum install java -y
RUN mkdir /opt/tomcat
WORKDIR /opt/tomcat
ADD https://dlcdn.apache.org/tomcat/tomcat-9/v9.0.89/bin/apache-tomcat-9.0.89.tar.gz .
RUN tar -xvzf apache-tomcat-9.0.89.tar.gz
RUN mv apache-tomcat-9.0.89/* /opt/tomcat
EXPOSE 8080
CMD ["/opt/tomcat/bin/catalina.sh", "run"]
[root@docker ~]#
[root@docker ~]#
```

FROM centos:7

RUN yum install java -y

RUN mkdir /opt/tomcat

WORKDIR /opt/tomcat

ADD https://dlcdn.apache.org/tomcat/tomcat-9/v9.0.85/bin/apache-tomcat-9.0.85.tar.gz .

RUN tar -xvzf apache-tomcat-9.0.85.tar.gz

RUN mv apache-tomcat-9.0.85/\* /opt/tomcat

EXPOSE 8080

CMD ["/opt/tomcat/bin/catalina.sh","run"]

Docker build

And run the container

Check tomcat UI is accessible or not