A1 TRAINING INSTITUTE (Only Coding)

# Docker Course

## Agenda

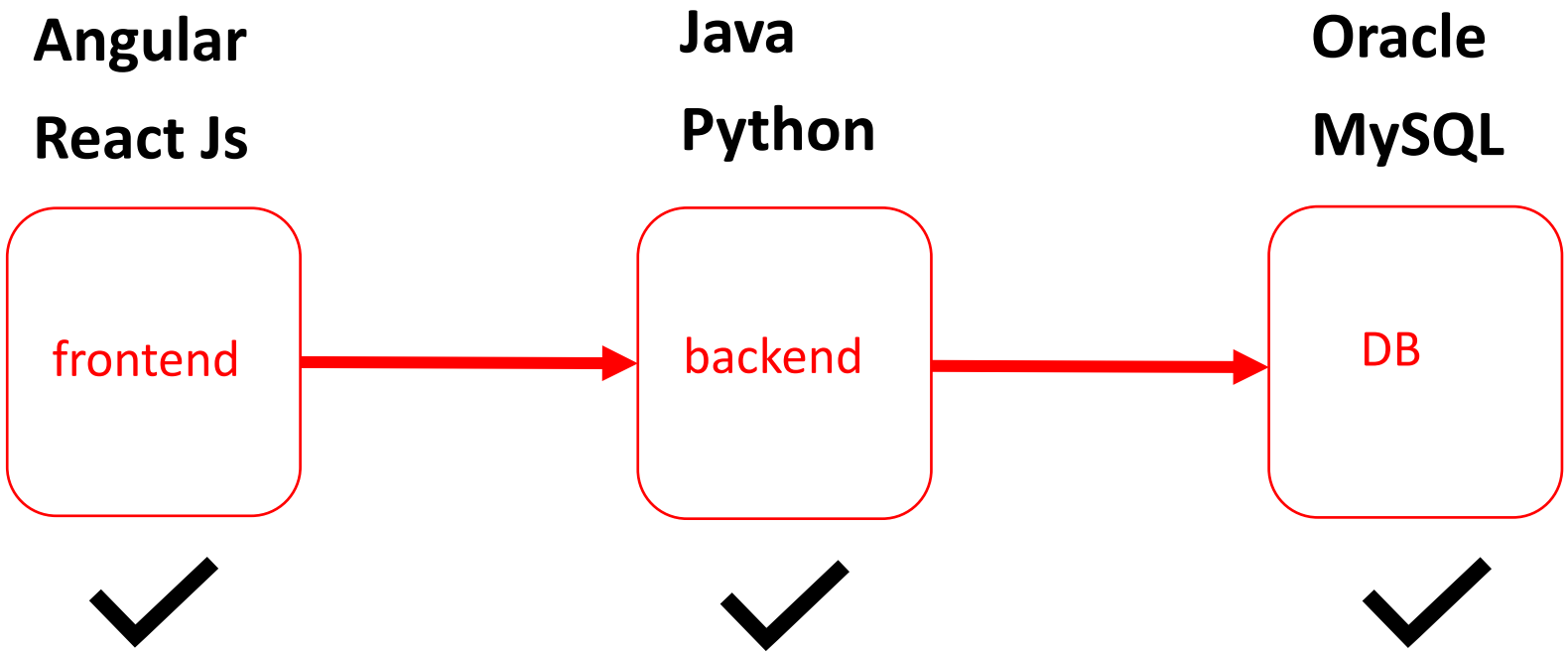
- What is Docker
- Why Docker
- Docker Setup
- Docker Image
- Docker Containers
- Docker file
- Docker Registry
- Docker Compose
- Projects with Docker
- Conclusion

# Docker Course

## What is Docker

- **Docker is an open-source platform for developing, shipping, and running application in containers.**
- **Containers are lightweight, isolated environments that package application and their dependencies.**
- **Benefits of using Docker: portability, scalability, consistency, and resource efficiency.**

# Docker Course



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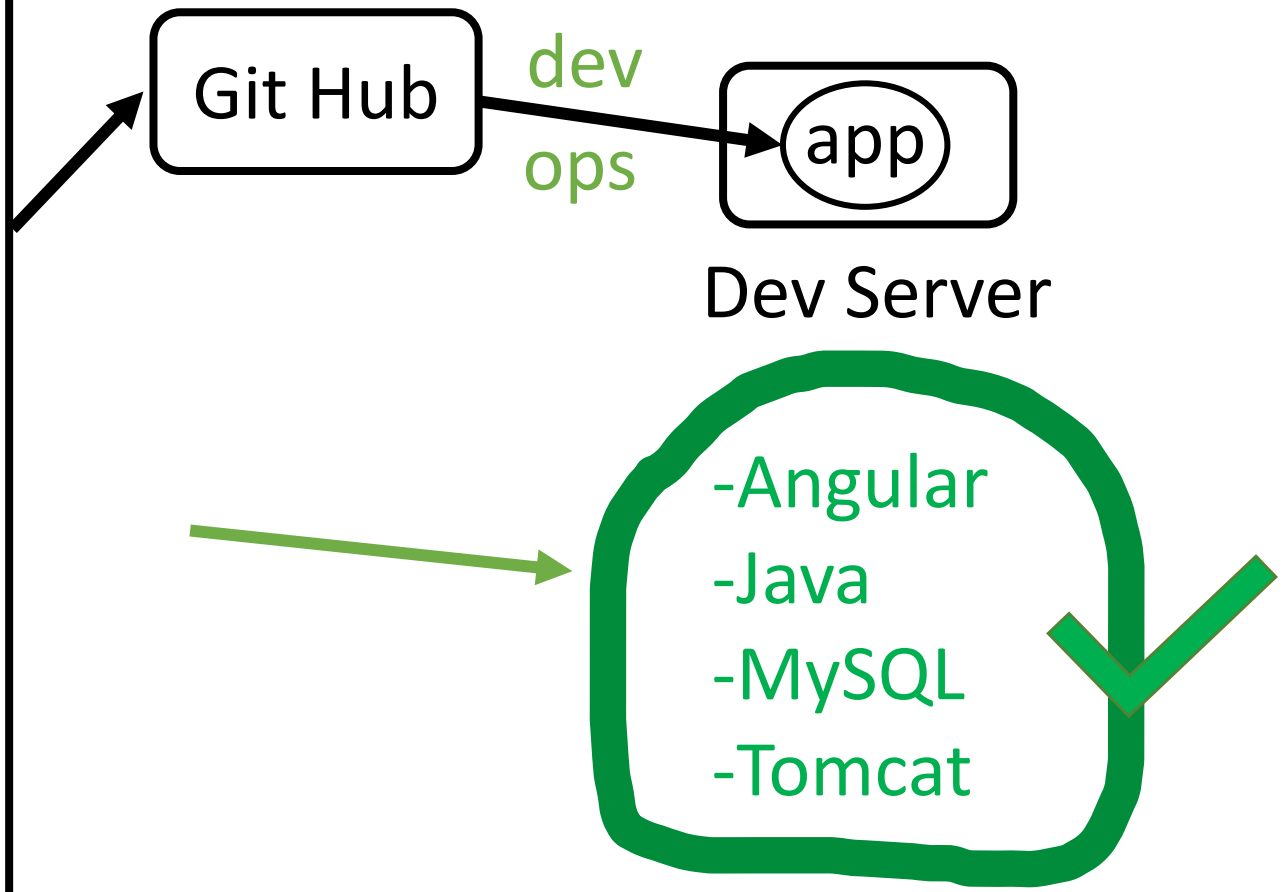

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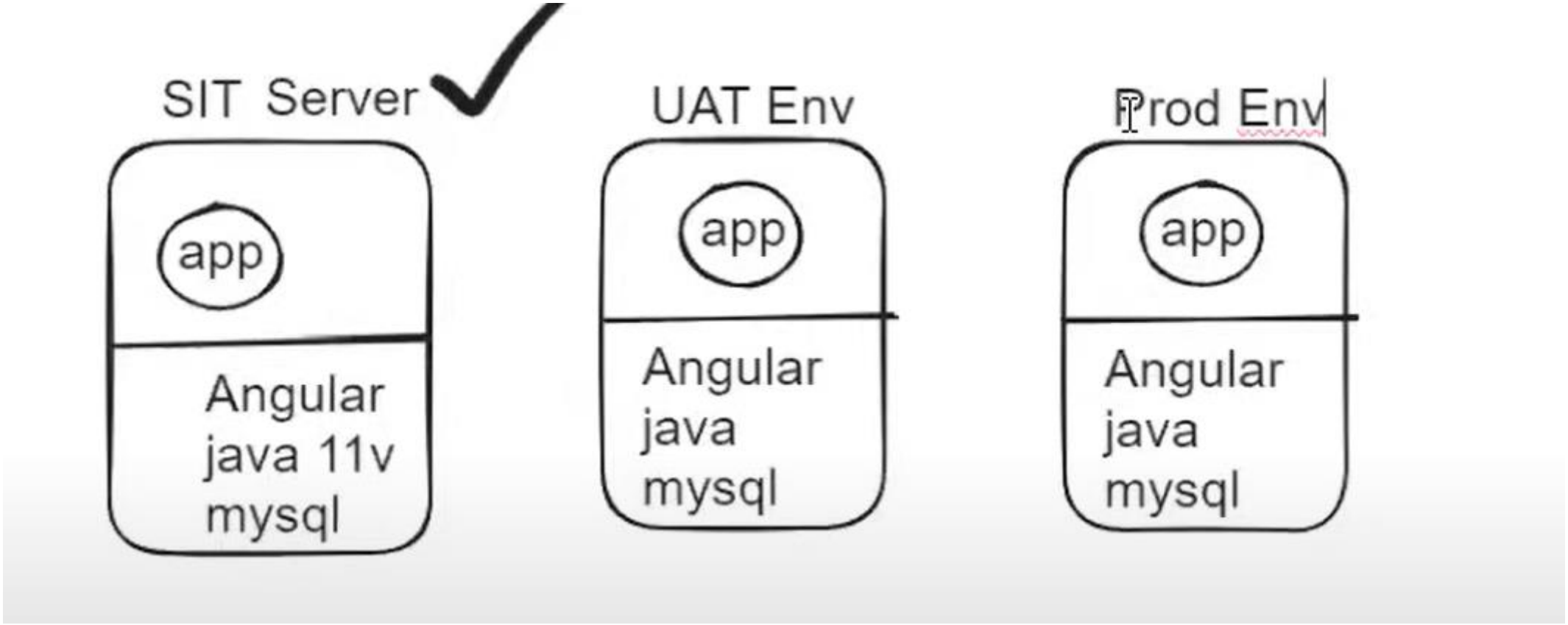

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1) Dev Env => For developers integration testing

2) SIT Env => For testers integration testing

3) UAT Env => For client acceptance testing

4) Pilot Env => Pre-Prod env

5) Prod Env => Live Environment

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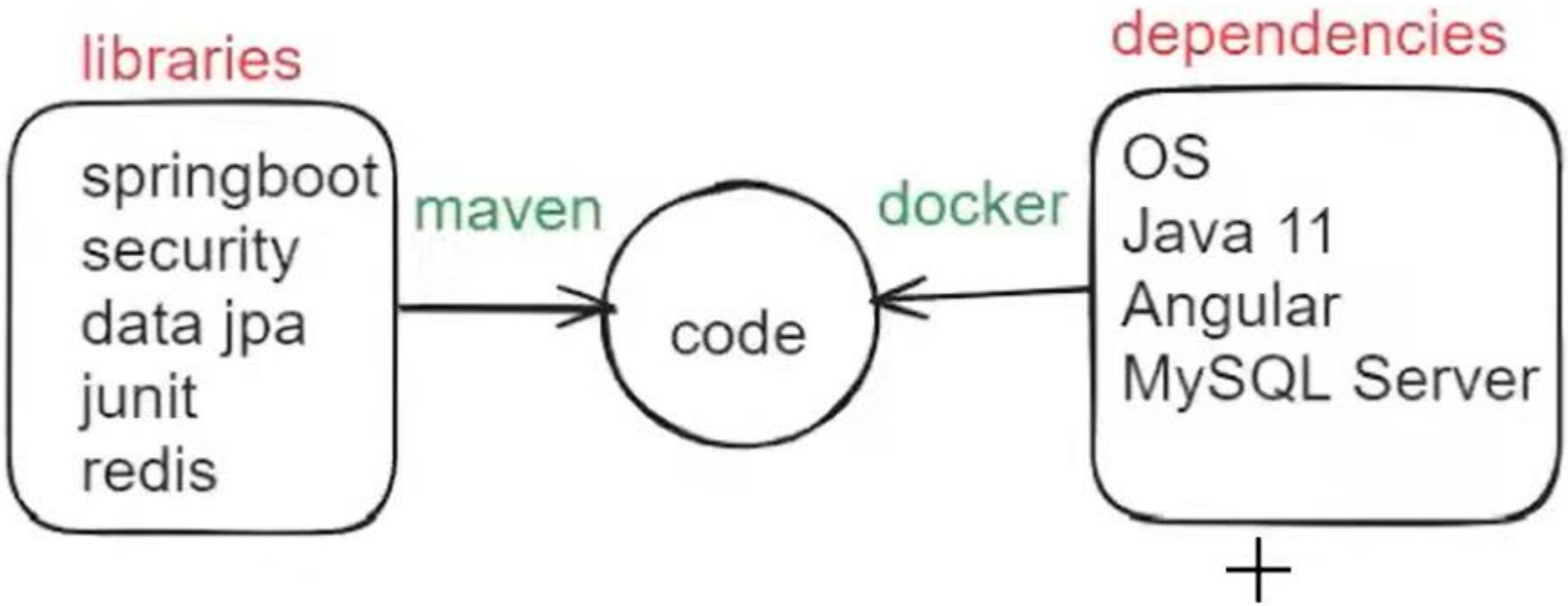

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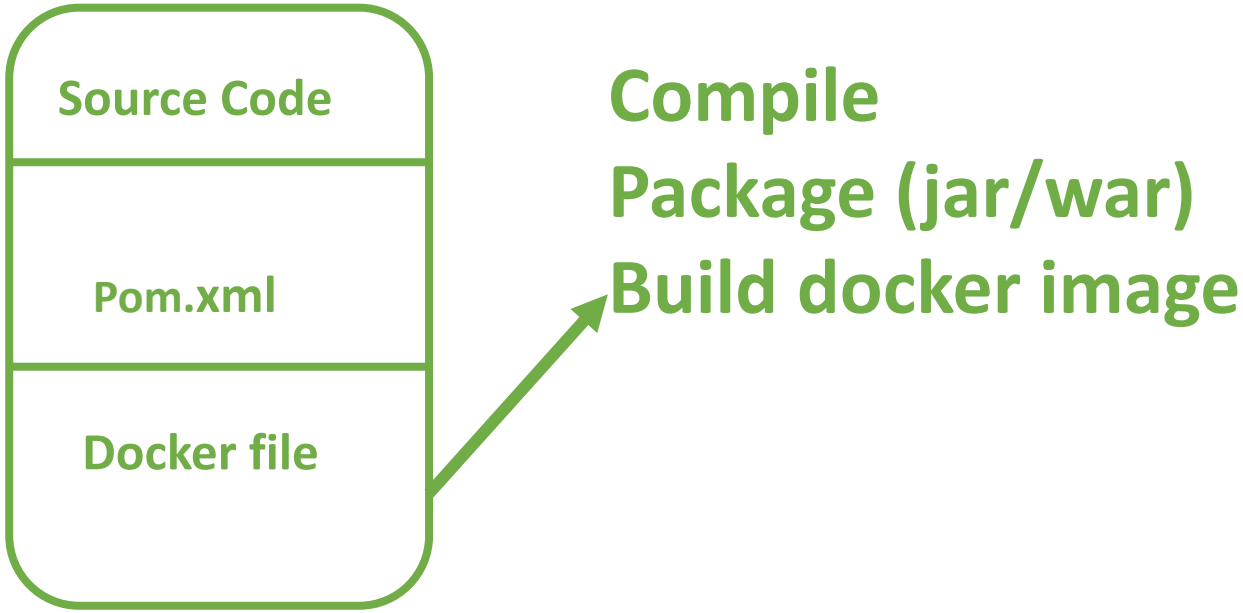


Pom.xml save libraries information and Dockerfile contains instruction for creating docker image.

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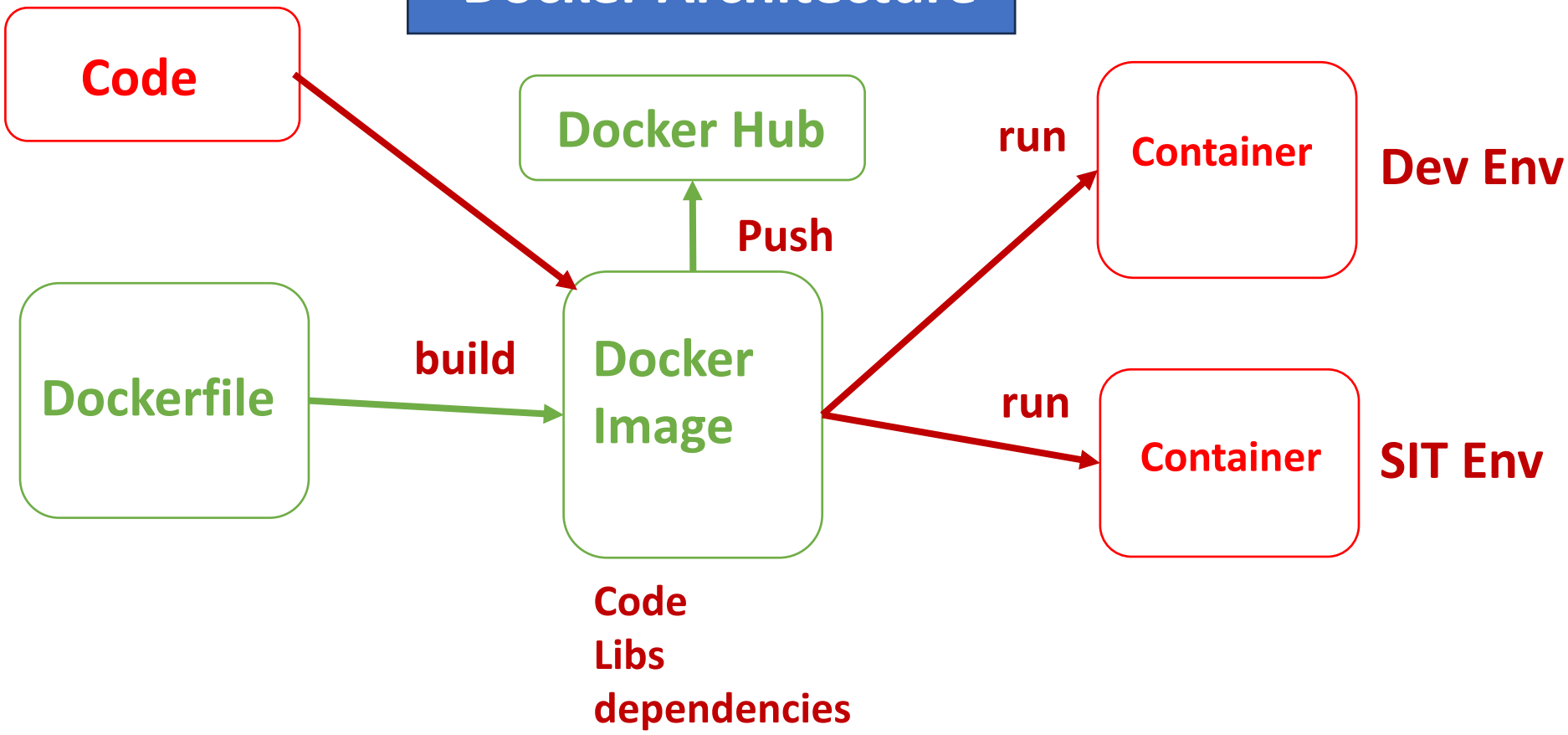
## Docker Architecture



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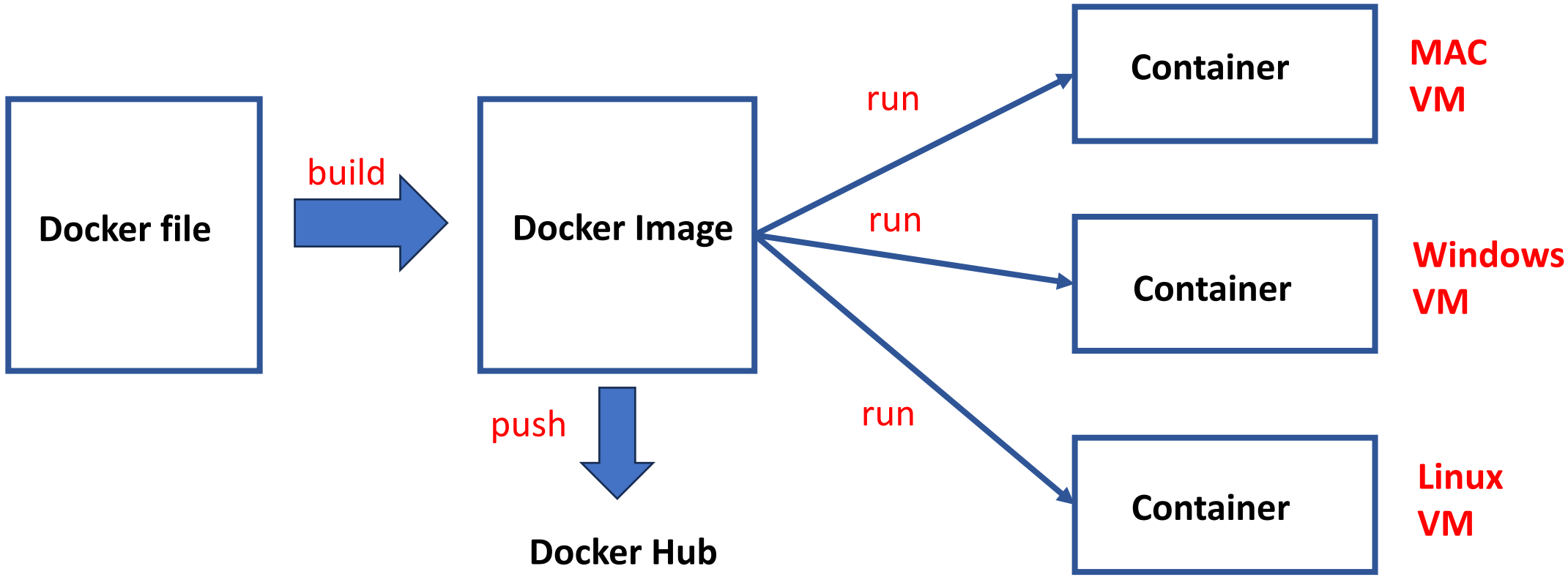
## Docker Architecture



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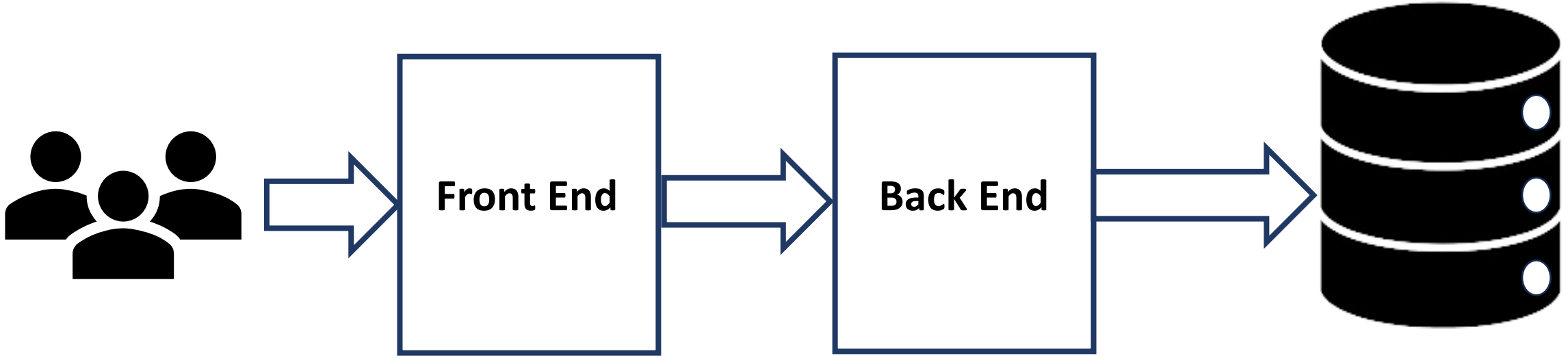
## Application Architecture




- Angular
- React JS
- Vue JS

- Java
- .Net
- Python
- PHP

- Oracle
- MySQL
- SQLSever
- MongoDB

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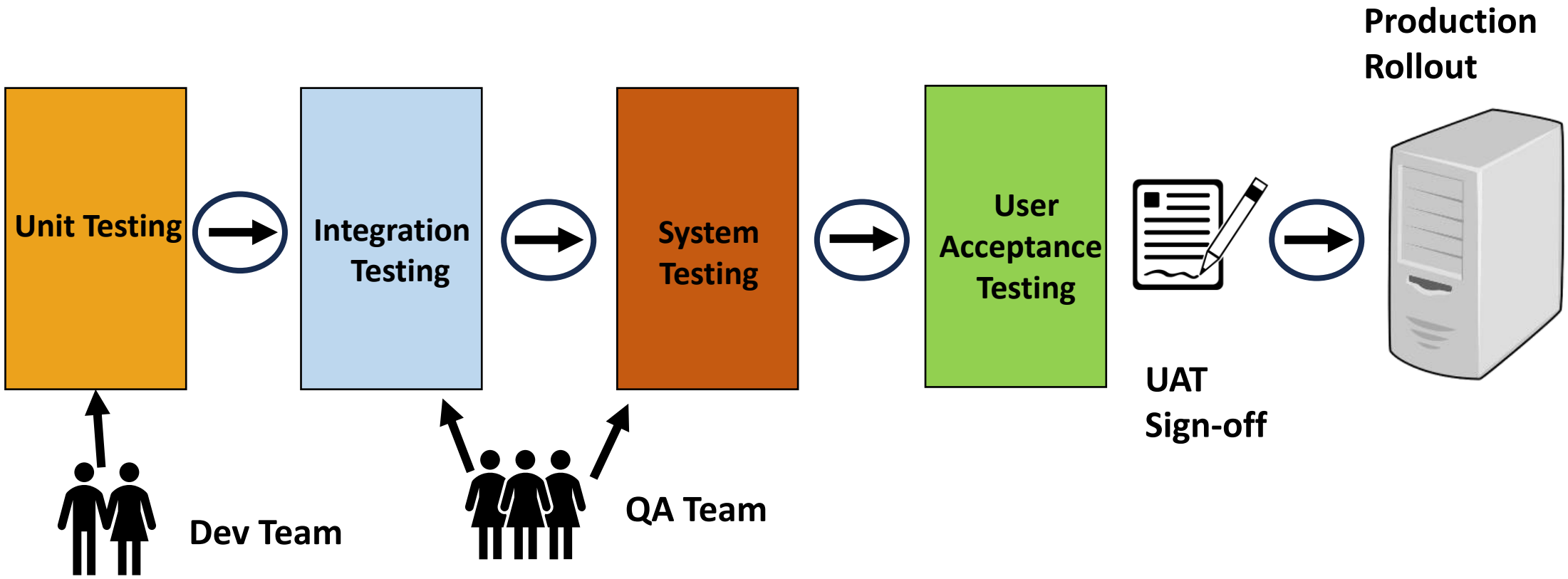
## Application Environments



# Docker Course

=========
Docker
=========

=> Docker is a containerization software

=> Docker is used to simplify our application deployment process

=> Docker will take care of required dependencies of our application

=> Using Docker we will run our application as a container

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What is Containerization ?

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=> The process of packaging our application code + dependencies as single unit and executing as a container is called as Containerization.

=> Container is an virtual machine (linux vm)

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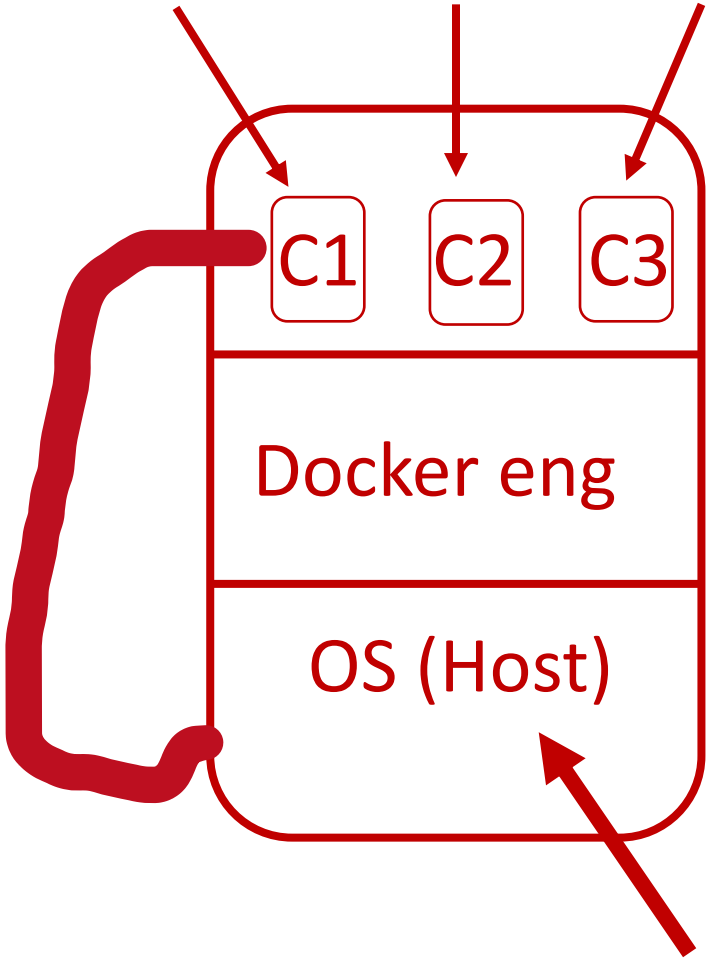
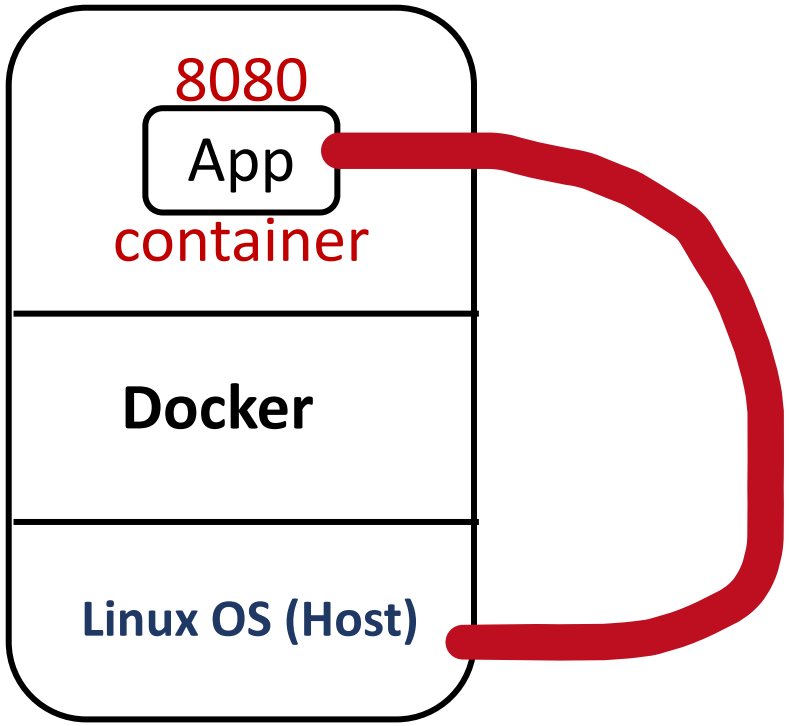
Port Mapping



# Docker Course




-p8080:8080

Public-ip:8080/url

# Docker Course

Docker image : to display available docker image

Docker pull <image-name. : download docker image

Docker run <image-name> : creating docker container

Docker ps : display running docker containers

Docker ps –a : display running + stopped containers

Docker rmi  <img-id> : to delete docker image

Docker rm <conainer-id> : to delete stopped docker container

Docker stop <container-id> : to stop running container

Docker start <container-id> : to start stopped container

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```
docker logs <container-id> : To see container logs

docker system prune -a : to delete un-used images + stopped
containers

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Spring Boot Rest api
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docker run -d -p 9090:9090 ashokit/spring-boot-rest-api

-d represents detached mode

-p represents port mapping
```