**Spring Boot Docker Kubernetes – Handle Deployment Portability Scalability of Microservice Using Docker**

**Step -1 – Introducing to challenges while building , deploying microservices**

**Step -2 – What are containers and how they are different from VMs**

**Step -3 – What are containers, containerization and docker**

**Step -4 – Introduction to Docker components and its architecture**

**Step -5 – Docker installation and docker hub introduction**

**Step -6 – Introduction to 3 approaches for Docker image generation**

**Step -7 – Generate docker image for Accounts microservice with Dockerfile – Part 1**Add this to every project (accounts,loans,cards) pom.xml

<plugin>

<artifactId>maven-compiler-plugin</artifactId>

<version>3.1</version>

<configuration>

<source>17</source>

<target>17</target>

<fork>true</fork>

<executable>C:\Program Files\Eclipse Adoptium\jdk-17.0.8.7-hotspot\bin\javac</executable>

</configuration>

</plugin>

\github\eazybytes\_ms\_k8s\accounts> .\mvnw.cmd clean package

This will create a jar file at  
\github\eazybytes\_ms\_k8s\accounts\target\accounts-0.0.1-SNAPSHOT.jar  
  
You can run the accounts application using java command using this jar  
 \github\eazybytes\_ms\_k8s\accounts>java -jar target/accounts-0.0.1-SNAPSHOT.jar

Same thing applied to loans and cards microservices

\github\eazybytes\_ms\_k8s\loans> .\mvnw.cmd clean package

\github\eazybytes\_ms\_k8s\cards> .\mvnw.cmd clean package

**Step -8 – Generate docker image for Accounts microservice with Dockerfile – Part 2**

**accounts\Dockerfile**

FROM openjdk:17-jdk-slim

COPY target/accounts-0.0.1-SNAPSHOT.jar accounts-0.0.1-SNAPSHOT.jar

ENTRYPOINT ["java","-jar","/accounts-0.0.1-SNAPSHOT.jar"]

loans\Dockerfile  
FROM openjdk:17-jdk-slim

COPY target/loans-0.0.1-SNAPSHOT.jar loans-0.0.1-SNAPSHOT.jar

ENTRYPOINT ["java","-jar","/loans-0.0.1-SNAPSHOT.jar"]

cards\Dockerfile  
FROM openjdk:17-jdk-slim

COPY target/cards-0.0.1-SNAPSHOT.jar cards-0.0.1-SNAPSHOT.jar

ENTRYPOINT ["java","-jar","/cards-0.0.1-SNAPSHOT.jar"]

**Step -9 – Generate docker image for Accounts microservice with Dockerfile – Part 3**

**Step -10 – Running accounts microservice as docker container**

**Step -11 – Challenges with Dockerfile approach to generate a Docker image**

**Step -12 – Generate Docker image of Loans microservice with BuildPacks**

**Step -13 – Generate Docker image of Cards microservice with Google Jib**

**Step -14 – Compare Dockerfile, Buildpacks and Jib approaches**

**Step -15 – Pushing Docker images from your local to remote Docker hub**

**Step -16 – Introduction to Docker-Compose**

**Step -17 – Running all microservices containers using Docker-Compose**

**Step -18 – Demo of Docker compose commands**

**Step -19 – Deep Dive into Docker commands**

**Step -20 – Introduction to Docker extensions and LogsExplorer**