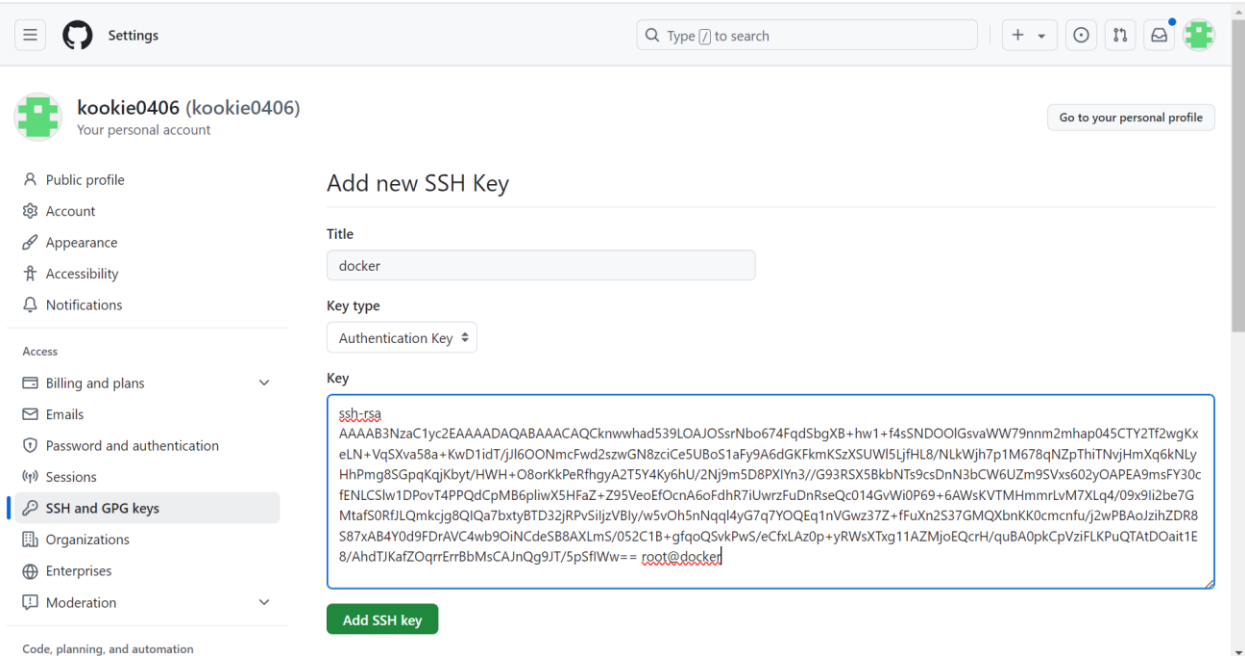
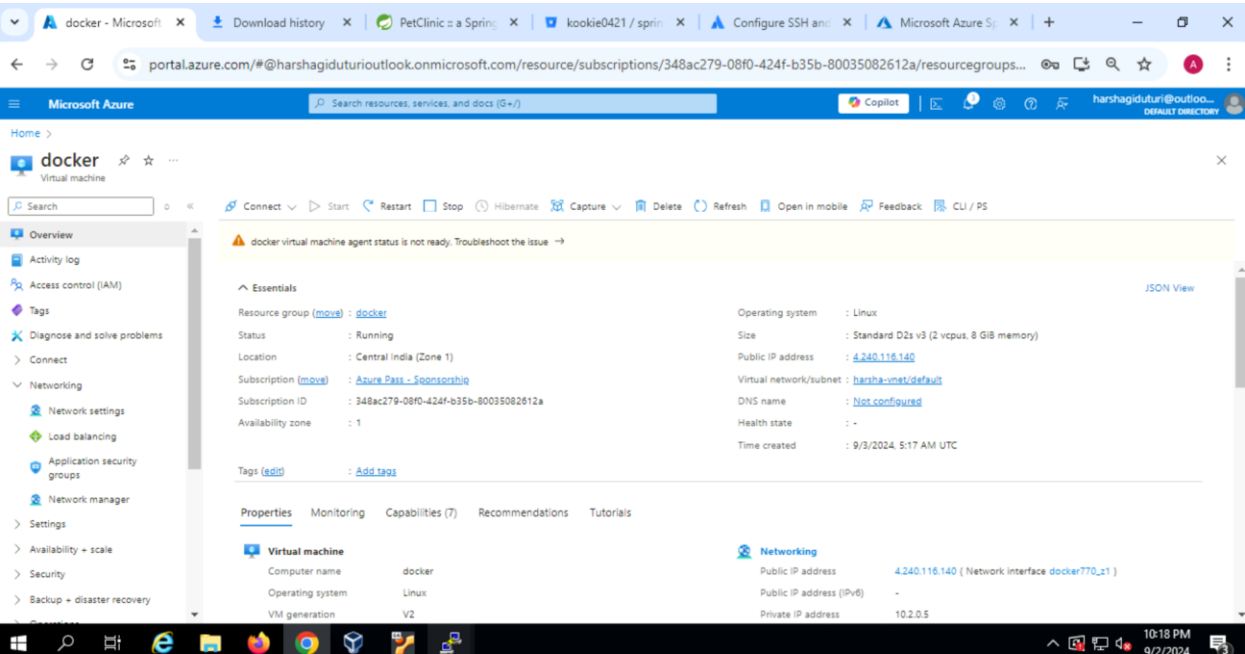


# Week – 5 Assignment

1<sup>st</sup> Create a docker for spring pet clinic



```

root@docker:/home/azureuser# git clone git@github.com:kookie0406/spring-petclinic.git
Cloning into 'spring-petclinic'...
The authenticity of host 'github.com (20.207.73.82)' can't be established.
ED25519 key fingerprint is SHA256:+DiY3wvV6TujZbhpZisF/zLDA0zPMSvHdKr4UvCQqU.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'github.com' (ED25519) to the list of known hosts.
remote: Enumerating objects: 9980, done.
remote: Total 9980 (delta 0), reused 0 (delta 0), pack-reused 9980 (from 1)
Receiving objects: 100% (9980/9980), 7.56 MiB | 4.40 MiB/s, done.
Resolving deltas: 100% (3761/3761), done.
root@docker:/home/azureuser#

```

```

root@docker:/home/azureuser/spring-petclinic# export JAVA_HOME=/usr/lib/jvm/java-17-openjdk-amd64
root@docker:/home/azureuser/spring-petclinic# export PATH=$JAVA_HOME/bin:$PATH

```

```

root@docker:/home/azureuser/spring-petclinic# export JAVA_HOME=/usr/lib/jvm/java-17-openjdk-amd64
root@docker:/home/azureuser/spring-petclinic# export JAVA_HOME=/usr/lib/jvm/java-17-openjdk-amd64
root@docker:/home/azureuser/spring-petclinic# export PATH=$JAVA_HOME/bin:$PATH
root@docker:/home/azureuser/spring-petclinic# java -version
openjdk version "17.0.12" 2024-07-16
OpenJDK Runtime Environment (build 17.0.12+7-Ubuntu-lubuntu224.04)
OpenJDK 64-Bit Server VM (build 17.0.12+7-Ubuntu-lubuntu224.04, mixed mode, sharing)
root@docker:/home/azureuser/spring-petclinic#

```

```

OpenJDK 64-Bit Server VM (build 17.0.12+7-Ubuntu-lubuntu224.04, mixed mode, sharing)
root@docker:/home/azureuser/spring-petclinic# export JAVA_HOME=/usr/lib/jvm/java-17-openjdk-amd64
root@docker:/home/azureuser/spring-petclinic# export JAVA_HOME=/usr/lib/jvm/java-17-openjdk-amd64
root@docker:/home/azureuser/spring-petclinic# export PATH=$JAVA_HOME/bin:$PATH
root@docker:/home/azureuser/spring-petclinic# java -version
openjdk version "17.0.12" 2024-07-16
OpenJDK Runtime Environment (build 17.0.12+7-Ubuntu-lubuntu224.04)
OpenJDK 64-Bit Server VM (build 17.0.12+7-Ubuntu-lubuntu224.04, mixed mode, sharing)
root@docker:/home/azureuser/spring-petclinic# mvn clean package -DskipTests

```

```

root@docker:/home/azureuser/spring-petclinic
Downloading from spring-milestones: https://repo.spring.io/milestone/org/codehaus/plexus/plexus-io/3.4.2/plexus-io-3.4.2.jar
Downloading from spring-milestones: https://repo.spring.io/milestone/org/apache/commons/commons-compress/1.26.1/commons-compress-1.26.1.jar
Downloading from spring-milestones: https://repo.spring.io/milestone/org/iq80/snappy/snappy/0.4/snappy-0.4.jar
Downloading from spring-milestones: https://repo.spring.io/milestone/org/tukaani/xz/1.9/xz-1.9.jar
Downloading from spring-milestones: https://repo.spring.io/milestone/com/github/luben/zstd-jni/1.5.5-11/zstd-jni-1.5.5-11.jar
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/commons/commons-io/2.16.1/commons-io-2.16.1.jar
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/maven-archiver/3.6.2/maven-archiver-3.6.2.jar
Downloading from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-utils/4.0.1/plexus-utils-4.0.1.jar
Downloading from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-interpolation/1.27/plexus-interpolation-1.27.jar
Downloading from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-archiver/4.9.2/plexus-archiver-4.9.2.jar
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/maven-archiver/3.6.2/maven-archiver-3.6.2.jar (27 kB at 213 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-io/3.4.2/plexus-io-3.4.2.jar
Downloaded from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-interpolation/1.27/plexus-interpolation-1.27.jar (86 kB at 676 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/commons/commons-compress/1.26.1/commons-compress-1.26.1.jar
Downloaded from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-archiver/4.9.2/plexus-archiver-4.9.2.jar (225 kB at 1.3 MB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/iq80/snappy/snappy/0.4/snappy-0.4.jar
Downloaded from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-utils/4.0.1/plexus-utils-4.0.1.jar (193 kB at 1.1 MB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/tukaani/xz/1.9/xz-1.9.jar
Downloaded from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-io/3.4.2/plexus-io-3.4.2.jar (79 kB at 330 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/com/github/luben/zstd-jni/1.5.5-11/zstd-jni-1.5.5-11.jar
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/commons/commons-io/2.16.1/commons-io-2.16.1.jar (509 kB at 1.9 MB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/iq80/snappy/snappy/0.4/snappy-0.4.jar (58 kB at 200 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/tukaani/xz/1.9/xz-1.9.jar (116 kB at 400 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/commons/commons-compress/1.26.1/commons-compress-1.26.1.jar (1.1 MB at 3.3 MB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/com/github/luben/zstd-jni/1.5.5-11/zstd-jni-1.5.5-11.jar (6.8 MB at 11 MB/s)
[INFO] Building jar: /home/azureuser/spring-petclinic/target/spring-petclinic-3.3.0-SNAPSHOT.jar
[INFO]
[INFO] --- spring-boot-maven-plugin:3.3.0:repackage (repackage) @ spring-petclinic ---
[INFO] Replacing main artifact /home/azureuser/spring-petclinic/target/spring-petclinic-3.3.0-SNAPSHOT.jar with repackaged archive, adding nested dependencies in BOOT-INF/.
[INFO] The original artifact has been renamed to /home/azureuser/spring-petclinic/target/spring-petclinic-3.3.0-SNAPSHOT.jar.original
[INFO] BUILD SUCCESS
[INFO]
[INFO] Total time: 38.396 s
[INFO] Finished at: 2024-09-03T05:49:40Z
[INFO]
root@docker:/home/azureuser/spring-petclinic#

```

```
root@docker:/home/azureuser/spring-petclinic/target
Downloading from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-utils/4.0.1/plexus-utils-4.0.1.jar
Downloading from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-interpolation/1.27/plexus-interpolation-1.27.jar
Downloading from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-archiver/4.9.2/plexus-archiver-4.9.2.jar
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/maven-archiver/3.6.2/maven-archiver-3.6.2.jar (27 kB at 213 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-io/3.4.2/plexus-io-3.4.2.jar
Downloading from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-interpolation/1.27/plexus-interpolation-1.27.jar (86 kB at 676 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/commons/commons-compress/1.26.1/commons-compress-1.26.1.jar
Downloading from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-archiver/4.9.2/plexus-archiver-4.9.2.jar (225 kB at 1.3 MB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/iq80/snappy/snappy/0.4/snappy-0.4.jar
Downloading from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-utils/4.0.1/plexus-utils-4.0.1.jar (193 kB at 1.1 MB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/tukaani/xz/1.9/xz-1.9.jar
Downloading from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-io/3.4.2/plexus-io-3.4.2.jar (79 kB at 330 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/com/github/luben/zstd-jni/1.5.5-11/zstd-jni-1.5.5-11.jar
Downloading from central: https://repo.maven.apache.org/maven2/commons-io/commons-io/2.16.1/commons-io-2.16.1.jar (509 kB at 1.9 MB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/iq80/snappy/snappy/0.4/snappy-0.4.jar (58 kB at 200 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/tukaani/xz/1.9/xz-1.9.jar (116 kB at 400 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/commons/commons-compress/1.26.1/commons-compress-1.26.1.jar (1.1 MB at 3.3 MB/s)
Downloading from central: https://repo.maven.apache.org/maven2/com/github/luben/zstd-jni/1.5.5-11/zstd-jni-1.5.5-11.jar (6.8 MB at 11 MB/s)
[INFO] Building jar: /home/azureuser/spring-petclinic/target/spring-petclinic-3.3.0-SNAPSHOT.jar
[INFO]
[INFO] --- spring-boot-maven-plugin:3.3.0:repackage (repackage) @ spring-petclinic ---
[INFO] Replacing main artifact /home/azureuser/spring-petclinic/target/spring-petclinic-3.3.0-SNAPSHOT.jar with repackaged archive, adding nested dependencies in BOOT-INF/.
[INFO] The original artifact has been renamed to /home/azureuser/spring-petclinic/target/spring-petclinic-3.3.0-SNAPSHOT.jar.original
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 38.396 s
[INFO] Finished at: 2024-09-03T05:49:40Z
[INFO] -----
root@docker:/home/azureuser/spring-petclinic# ls
LICENSE.txt build.gradle docker-compose.yml gradle gradlew gradlew.bat mvnw mvnw.cmd pom.xml readme.md settings.gradle src target
root@docker:/home/azureuser/spring-petclinic# cd target
root@docker:/home/azureuser/spring-petclinic/target# ls
checkstyle-cachefile checkstyle-result.xml generated-test-sources spring-petclinic-3.3.0-SNAPSHOT.jar
checkstyle-checker.xml classes maven-archiver spring-petclinic-3.3.0-SNAPSHOT.jar.original
checkstyle-header.txt generated-sources maven-status test-classes
root@docker:/home/azureuser/spring-petclinic/target#
```

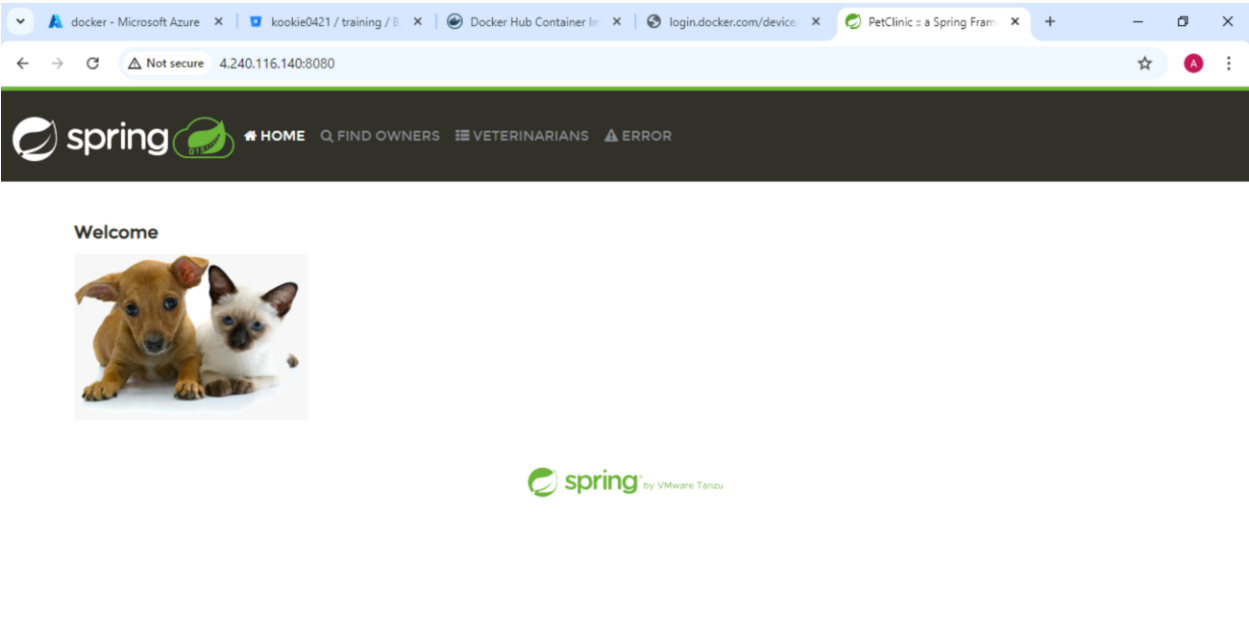
```
root@docker:/home/azureuser/spring-petclinic/target
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/commons/commons-compress/1.26.1/commons-compress-1.26.1.jar
Downloading from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-archiver/4.9.2/plexus-archiver-4.9.2.jar (225 kB at 1.3 MB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/iq80/snappy/snappy/0.4/snappy-0.4.jar
Downloading from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-utils/4.0.1/plexus-utils-4.0.1.jar (193 kB at 1.1 MB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/tukaani/xz/1.9/xz-1.9.jar
Downloading from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-io/3.4.2/plexus-io-3.4.2.jar (79 kB at 330 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/com/github/luben/zstd-jni/1.5.5-11/zstd-jni-1.5.5-11.jar
Downloading from central: https://repo.maven.apache.org/maven2/commons-io/commons-io/2.16.1/commons-io-2.16.1.jar (509 kB at 1.9 MB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/iq80/snappy/snappy/0.4/snappy-0.4.jar (58 kB at 200 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/tukaani/xz/1.9/xz-1.9.jar (116 kB at 400 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/commons/commons-compress/1.26.1/commons-compress-1.26.1.jar (1.1 MB at 3.3 MB/s)
Downloading from central: https://repo.maven.apache.org/maven2/com/github/luben/zstd-jni/1.5.5-11/zstd-jni-1.5.5-11.jar (6.8 MB at 11 MB/s)
[INFO] Building jar: /home/azureuser/spring-petclinic/target/spring-petclinic-3.3.0-SNAPSHOT.jar
[INFO]
[INFO] --- spring-boot-maven-plugin:3.3.0:repackage (repackage) @ spring-petclinic ---
[INFO] Replacing main artifact /home/azureuser/spring-petclinic/target/spring-petclinic-3.3.0-SNAPSHOT.jar with repackaged archive, adding nested dependencies in BOOT-INF/.
[INFO] The original artifact has been renamed to /home/azureuser/spring-petclinic/target/spring-petclinic-3.3.0-SNAPSHOT.jar.original
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 38.396 s
[INFO] Finished at: 2024-09-03T05:49:40Z
[INFO] -----
root@docker:/home/azureuser/spring-petclinic# ls
LICENSE.txt build.gradle docker-compose.yml gradle gradlew gradlew.bat mvnw mvnw.cmd pom.xml readme.md settings.gradle src target
root@docker:/home/azureuser/spring-petclinic# cd target
root@docker:/home/azureuser/spring-petclinic/target# ls
checkstyle-cachefile checkstyle-result.xml generated-test-sources spring-petclinic-3.3.0-SNAPSHOT.jar
checkstyle-checker.xml classes maven-archiver spring-petclinic-3.3.0-SNAPSHOT.jar.original
checkstyle-header.txt generated-sources maven-status test-classes
root@docker:/home/azureuser/spring-petclinic/target#
```

```
root@docker:/home/aszureuser/spring-petclinic/target# vi Dockerfile
root@docker:/home/aszureuser/spring-petclinic/target# docker build -t petclinic .
[*] Building 3.2s (8/9) FINISHED
[+] Building 3.2s (8/9) FINISHED                                docker:default
-> [internal] load build definition from Dockerfile             0.0s
-> => transferring context: 0B                                   0.0s
-> [internal] load metadata for docker.io/library/openjdk:17-jdk-slim 0.7s
-> [internal] load /dev/null                                     0.0s
-> => transferring context: 1B                                    0.0s
-> [1/3] FROM docker.io/library/openjdk:17-jdk-slim@sha256:aad3e5c2f7a2a12d9f148630150cc55eaf801124dc1466c0e12e079 0.0s
-> [internal] load build context                                 0.0s
-> => transferring context: 41.6MB                               0.0s
-CACHED [2/3] WORKDIR /app/                                    0.0s
-> [1/1] COPY spring-petclinic-1.3.0-SNAPSHOT.jar ,            0.0s
-> exporting to image                                           0.0s
-> exporting layers                                              0.0s
-> writing image sha256:e133fa74343ba0a0c44bb614340ee1e6123026caadab0144eac0b94e0dd59 0.0s
-> <--> saving to registry docker.io/library/petclinic         0.0s

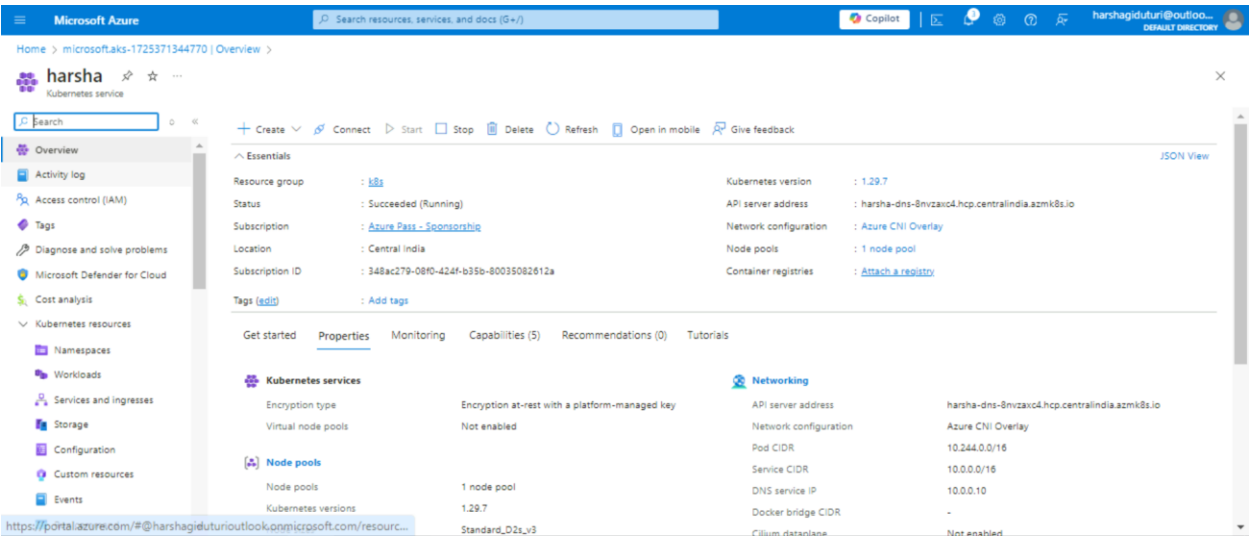
root@docker:/home/aszureuser/spring-petclinic/target# vi Dockerfile
root@docker:/home/aszureuser/spring-petclinic/target# docker images
REPOSITORY   TAG       IMAGE ID      CREATED        SIZE
petclinic    latest   813393a7483d About a minute ago 46MB
```

[illegible]





2<sup>nd</sup>. Host spring pet clinic in kubernetes



```
root@ubuntu-VirtualBox ~  
login as: ubuntu  
ubuntu@192.168.56.101's password:  
Welcome to Ubuntu 22.04.4 LTS (GNU/Linux 6.8.0-40-generic x86_64)  
  
* Documentation:  https://help.ubuntu.com  
* Management:    https://landscape.canonical.com  
* Support:       https://ubuntu.com/pro  
  
Expanded Security Maintenance for Applications is not enabled.  
  
3 updates can be applied immediately.  
To see these additional updates run: apt list --upgradable  
  
1 additional security update can be applied with ESM Apps.  
Learn more about enabling ESM Apps service at https://ubuntu.com/esm  
  
Last login: Thu Aug 29 09:41:48 2024 from 192.168.56.1  
ubuntu@ubuntu-VirtualBox:~$ sudo su  
[sudo] password for ubuntu:  
root@ubuntu-VirtualBox:/home/ubuntu# kubectl --version  
error: unknown flag: --version  
See 'kubectl --help' for usage.  
root@ubuntu-VirtualBox:/home/ubuntu# kubectl -version  
error: invalid argument "ersion" for "-v, --v" flag: strconv.ParseInt: parsing "ersion": invalid syntax  
See 'kubectl --help' for usage.  
root@ubuntu-VirtualBox:/home/ubuntu# kubectl  
kubectl controls the Kubernetes cluster manager.  
  
Find more information at: https://kubernetes.io/docs/reference/kubectl/  
  
Basic Commands (Beginner):  
  create      Create a resource from a file or from stdin  
  expose      Take a replication controller, service, deployment or pod and expose it as a new Kubernetes service  
  run         Run a particular image on the cluster  
  set         Set specific features on objects  
  
Basic Commands (Intermediate):
```

Micron Confidential

```
root@ubuntu-VirtualBox ~  
apiVersion: apps/v1  
kind: Deployment  
metadata:  
  name: spring-petclinic  
spec:  
  replicas: 1  
  selector:  
    matchLabels:  
      app: spring-petclinic  
  template:  
    metadata:  
      labels:  
        app: spring-petclinic  
    spec:  
      containers:  
        - name: spring-petclinic  
          image: harsha0408/spring-petclinic:latest  
          ports:  
            - containerPort: 8080  
---  
apiVersion: v1  
kind: Service  
metadata:  
  name: spring-petclinic-service  
spec:  
  selector:  
    app: spring-petclinic  
  ports:  
    - protocol: TCP  
      port: 80  
      targetPort: 8080  
  type: LoadBalancer
```

```
root@ubuntu-VirtualBox:~# kubectl get all
NAME                                READY    STATUS              RESTARTS   AGE
pod/spring-petclinic-544dd67d77-wvhnq 0/1      ContainerCreating   0           6s
pod/spring-petclinic-6b4b4684ff-6dw42 0/1      ContainerCreating   0           5m32s

NAME                                TYPE                CLUSTER-IP      EXTERNAL-IP      PORT(S)          AGE
service/kubernetes                  ClusterIP           10.0.0.1        <none>            443/TCP          57m
service/spring-petclinic            LoadBalancer       10.0.121.254    20.235.194.156   80:32695/TCP     9m9s
service/spring-petclinic-service    LoadBalancer       10.0.175.38     <pending>         80:30882/TCP     6s

NAME                                READY    UP-TO-DATE    AVAILABLE    AGE
deployment.apps/spring-petclinic    0/1      1              0            9m40s

NAME                                DESIRED    CURRENT    READY    AGE
replicaset.apps/spring-petclinic-544dd67d77 1          1          0        7s
replicaset.apps/spring-petclinic-6b4b4684ff 1          1          0        5m33s
replicaset.apps/spring-petclinic-855dc6d57f 0          0          0        9m40s
root@ubuntu-VirtualBox:~# kubectl get all
NAME                                READY    STATUS              RESTARTS   AGE
pod/spring-petclinic-544dd67d77-wvhnq 1/1      Running         0           25s

NAME                                TYPE                CLUSTER-IP      EXTERNAL-IP      PORT(S)          AGE
service/kubernetes                  ClusterIP           10.0.0.1        <none>            443/TCP          57m
service/spring-petclinic            LoadBalancer       10.0.121.254    20.235.194.156   80:32695/TCP     9m28s
service/spring-petclinic-service    LoadBalancer       10.0.175.38     4.188.94.243     80:30882/TCP     25s

NAME                                READY    UP-TO-DATE    AVAILABLE    AGE
deployment.apps/spring-petclinic    1/1      1              1            9m58s

NAME                                DESIRED    CURRENT    READY    AGE
replicaset.apps/spring-petclinic-544dd67d77 1          1          1        25s
replicaset.apps/spring-petclinic-6b4b4684ff 0          0          0        5m51s
replicaset.apps/spring-petclinic-855dc6d57f 0          0          0        9m58s
root@ubuntu-VirtualBox:~#
```

