

Openshift_180

1 implement a base EAP server image

```
FROM acme/jboss-base-jdk:latest # 宣告 images
USER root # user root
ARG WORKDIR=/opt/jboss #變數替代絕對路徑
COPY ./jboss-eap-7.2.0.zip $WORKDIR # cp zip 至工作路徑
###RUN yum install unzip -y # install unzip

-----

RUN cd $WORKDIR #
RUN unzip jboss-eap-7.2.0.zip
RUN rm jboss-eap-7.2.0.zip
ENV JBOSS_EAP_VERSION 7.2

-----

### ENV 環境變數，可以使用容器內的 ENV 查看每個環境變量。
ENV JBOSS_HOME /opt/jboss/jboss-eap-7.2
### Create EAP User
RUN $JBOSS_HOME/bin/add-user.sh admin admin123! --silent
RUN chown -R jboss:0 ${JBOSS_HOME} \
RUN chmod -R g+rw ${JBOSS_HOME}
USER jboss
### Open Ports
EXPOSE 8080 # EXPOSE container network port at runtime.
EXPOSE 9990
EXPOSE 9999
### Start EAP
CMD ["/opt/jboss/jboss-eap-7.2/bin/standalone.sh", "-b", "0.0.0.0"]
###ENTRYPOINT 參數執行可在容器內運行

$ wget .....jdk.tar
$ podman load -i jdk.tar
$ podman build . -t acme/jboss-eap

$ [student@workstation jbooseap]$ podman images
REPOSITORY TAG IMAGE ID CREATED SIZE
localhost/acme/jboss-eap latest 43394ad5ff7f 10 seconds ago 1.43 GB

$ podman run -d --name test localhost/acme/jboss-eap
$ podman logs test
$ curl 127.0.0.1:9990
```

2 eate containers the acme/jboss-eap

```
$ podman run -d --name acmeEAP -p 12080:8080 -p 12990:9990 -p 12999:9999
localhost/acme/jboss-eap
103acb0baa12ed329f3155c7a50878a1772725490d116c929fd6e80ca018fbba
```

```
$ podman ps
```

CONTAINER

ID	IMAGE	COMMAND	CREATED	STATUS	PO
RTS			NAMES		
f587956b3c69	localhost/acme/jboss-eap:latest	/opt/jboss/jboss-...	15 minutes ago	Up 15 minutes ago	issac
103acb0baa12	localhost/acme/jboss-eap:latest	/opt/jboss/jboss-...	40 seconds ago	Up 41 seconds ago	0.0.0.0:12080->8080/tcp, 0.0.0.0:12990->9990/tcp, 0.0.0.0:12999->9999/tcp acmeEAP

```
$ podman logs --tail 10 103acb0baa12
```

```
$ curl 127.0.0.1:12080 | grep EAP
<h1>Welcome to JBoss EAP 7</h1>
browser 127.0.0.1:12080
```

3 & 4 Run a database container & Run a wordpress container

```
$ wget ...mariadb.tar
$ wget ...wp.tar
$ podman load -i mariadb.tar
$ podman load -i wp.tar
# systemctl -a |grep start
net.ipv4.ip_unprivileged_port_start = 1024
-----
# systemctl -a |grep start
net.ipv4.ip_unprivileged_port_start = 80
net.ipv4.tcp_slow_start_after_idle = 1
# systemctl -w net.ipv4.ip_unprivileged_port_start=80
net.ipv4.ip_unprivileged_port_start = 80

$ podman pod create -p 80:80 -n wordpresspod
```

```
$ podman pod ls
```

POD ID	NAME	STATUS	CREATED	INFRA ID	# OF CONTAINERS
5f586f35f35a	wordpresspod	Created	2 seconds ago	8afe7a674127	1

```
[student@workstation ~]$ podman run -d --pod wordpresspod --name acmedb -v /home/student/tmp/data:/var/lib/mysql:Z -e MARIADB_ROOT_PASSWORD="redhat59!" -e MARIADB_DATABASE=acmedb -e MARIADB_USER=candidate -e MARIADB_PASSWORD=redhat docker.io/acme/mariadb 70b015f80bfae8cf7547b518111cc340d60a6923930e717303a6ac70d9e38027
```

```
[student@workstation ~]$ podman run -d --pod wordpresspod --name wordpress -e WORDPRESS_DB_HOST=127.0.0.1:3306 -e WORDPRESS_DB_USER=candidate -e WORDPRESS_DB_PASSWORD=redhat -e WORDPRESS_DB_NAME=acmedb docker.io/acme/wordpress 386bacd200727f7626cf96dec3969faba137c71b683e1949612993d9cfb730da
```

```
$ podman ps -a
```

818c98d850ee	docker.io/acme/ wordpress:latest	Up 3 minutes ago	0.0.0.0:80->80/tcp	apache2-foreground...
be26e609b8ca	docker.io/acme/ mariadb:latest	Up 3 seconds ago	0.0.0.0:80->80/tcp	mysqld
				acmeE
				AP1

```
[student@workstation ~]$ podman pod ls
```

POD ID	NAME	STATUS	CREATED	INFRA ID	# OF CONTAINERS
6e5daf560eba	wordpresspod	Running	About a minute ago	6dec4c988ad0	3

```
[student@workstation ~]$ curl http://127.0.0.1/wp-admin/install.php  
brower 127.0.0.1/wp-admin/install.php
```

5 Manage container images

```
$ podman images
```

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
localhost/acme/jboss-eap	latest	30ea05010ff6	About an hour ago	1.43 GB

```
$ podman tag localhost/acme/jboss-eap
acmeregistry:5000/acme/jboss-eap:7.2.0.Final
```

```
$ podman images
REPOSITORY                                TAG          IMAGE
ID      CREATED          SIZE
acmeregistry:5000/acme/jboss-eap         7.2.0.Final  30ea05010ff6 About an hour
ago 1.43 GB
```

```
$ podman push acmeregistry:5000/acme/jboss-eap
push 考試才能下 (7/23 exem 倉庫問題)
```

```
$ podman save -o jboss-eap-7.2.0.Final.tar acmeregistry:5000/acme/jboss-eap
Error: acmeregistry:5000/acme/jboss-eap: image not known #少TAG
```

```
$ podman save -o jboss-eap-7.2.0.Final.tar acmeregistry:5000/acme/jboss-eap:7.2.0.Final
```

```
$ du -h *.tar
1.2G jboss-eap-7.2.0.Final.tar
```

6 7 Deploy (database & applications)Template on OpenShift

```
$ oc process --parameters -f postgresql-ephemeral.yaml
```

NAME	DESCRIPTION
GENERATOR	VALUE
MEMORY_LIMIT	Maximum amount of memory the container can use. 512Mi
NAMESPACE	The OpenShift Namespace where the ImageStream resides. openshift
DATABASE_SERVICE_NAME	The name of the OpenShift Service exposed for the database. postgresql
POSTGRESQL_USER	Username for PostgreSQL user that will be used for accessing the database. expression user[A-Z0-9]{3}
POSTGRESQL_PASSWORD	Password for the PostgreSQL connection user. expression [a-zA-Z0-9]{16}
POSTGRESQL_DATABASE	Name of the PostgreSQL database accessed. sampledb
POSTGRESQL_VERSION	Version of PostgreSQL image to be used (10 or latest). 10

```
[student4@foundation56 ~]$ oc process -f postgresql-ephemeral.yaml -p
POSTGRESQL_USER=acme -p POSTGRESQL_PASSWORD=redhat -p
DATABASE_SERVICE_NAME=infodb -p POSTGRESQL_DATABASE=acmedb -o yaml -l
app=info,db -l db=postgresql> myapp-a.yaml
```

```
[student4@foundation56 ~]$ oc process-f myapp-a.yaml #指令有誤 process
error: unable to parse "myapp-a.yaml", not a valid Template but *v1.List
```

```
[student4@foundation56 ~]$ oc create -f myapp-a.yaml
secret/infodb created
service/infodb created
deploymentconfig.apps.openshift.io/infodb created
```

```
[student4@foundation56 ~]$ oc get all
```

NAME	READY	STATUS	RESTARTS	AGE
pod/infodb-1-7lnmh	1/1	Running	0	7h27m
pod/infodb-1-deploy	0/1	Completed	0	7h27m

NAME	DESIRED	CURRENT	READY	AGE
replicationcontroller/infodb-1	1	1	1	7h27m

NAME	TYPE	CLUSTER-IP	EXTERNAL-IP	PORT(S)	AGE
service/infodb	ClusterIP	172.30.144.72	<none>	5432/TCP	7h27m

NAME	REVISION	DESIRED	CURRENT	TRIGGER BY
deploymentconfig.apps.openshift.io/infodb	1	1	1	config,image(postgresql:10)

```
[student4@foundation56 ~]$ oc status
In project Information messages (message-info4) on server
https://lb.xyz56.local:6443
```

```
svc/infodb - 172.30.144.72:5432
dc/infodb deploys openshift/postgresql:10
deployment #1 deployed 7 hours ago - 1 pod
```

View details with 'oc describe <resource>/<name>' or list resources with 'oc get all'.

```
$ oc new-app --name message-info -l app=message-info -e
WORDPRESS_DB_HOST=172.30.144.72:5432 -e WORDPRESS_DB_USER=acme -e
WORDPRESS_DB_PASSWORD=redhat -e WORDPRESS_DB_NAME=acmedb
docker.io/library/wordpress
--> Found container image 8261406 (3 days old) from docker.io for ""
    * An image stream tag will be created as "message-info:latest" that will track this image
```

```
--> Creating resources with label app=message-info ...
    imagestream.image.openshift.io "message-info" created
    deployment.apps "message-info" created
    service "message-info" created
```

```
--> Success
```

Application is not exposed. You can expose services to the outside world by executing one or more of the commands below:

```
'oc expose service/message-info'
```

Run 'oc status' to view your app.

```
[student4@foundation56 ~]$ oc status
```

In project Information messages (message-info4) on server https://lb.xyz56.local:6443

svc/infodb - 172.30.144.72:5432

```
dc/infodb deploys openshift/postgresql:10
deployment #1 deployed 8 hours ago - 1 pod
```

svc/message-info - 172.30.48.40:80

```
deployment/message-info deploys istag/message-info:latest
deployment #2 running for 26 seconds - 0/1 pods (warning: 2 restarts)
deployment #1 deployed 29 seconds ago - 0/1 pods growing to 1
```

1 warning, 1 info identified, use 'oc status --suggest' to see details.

```
$ oc get all
```

```
$ oc logs pod/pod/message-info-7c467cb5c8-kdwrk
```

```
$ curl http://127.0.0.1/wp-admin/install.php
```

```
brower http://acmeinfo.domain20.example.com
```

8 Troubleshoot applications on OpenShift

任務

在項目文件夾中，更新以下腳本：

getAcmeOpenshiftLogs.sh 必須輸出正在運行的 **message-info pod/s** 的日誌。

copyAcmeOpenshift 必須複製/同步子目錄

info 目錄 **/work** 中應用程序消息信息的運行 **pod**。

提示：要獲取正在運行的 **pod** 名稱，您可以在消息應用程序的運行 **pod** 中修改命令 **native-strings.sh** 的執行輸出。

message-info 應用程序的運行 **pod** 中的命令 **native-scrings.sh**。

測試你的工作

只需運行腳本並檢查輸出。

```
#!/bin/bash
FK=$(oc get po |grep "^message"|cut -d " " -f 1)
oc logs $FK
FK=$(oc get po |grep "^message"|cut -d " " -f 1)
#oc cp /tmp/foo_dir <some-pod>:/tmp/bar_dir
oc copy tools $FK:/work FK=$(oc get po |grep "^message"|cut -d " " -f 1)
oc rsh $FK /work/tools/native-srings.sh
```