PUBLICIS SAPIENT

BOOKMYMOVIE

RUNBOOK DOCUMENT

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Statement of Confidentiality

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About This Guide

This document is intended for understanding the details of Kubernetes process, Microservice Ports of Book-My-Movie Project.

Audience

This guide is intended for the Book My Movie Development team.

Related Documents

Document title	Owner/Link	Version
High Level Design Document	Architect	V1.0

Document History

Created on	Created by	Changed on	Changed by	Reviewed by	Version
24/07/2024	Palash Chanda	24/07/2024	Palash Chanda	TBD	V1.0
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Microservice Port Mapping

Microservice Server ports

Microservice	Port
bookmymovie-orchestrator	8081
bookmymovie-theater	8082
bookmymovie-cinema	8083
bookmymovie-viewer	8084
bookmymovie-order	8085
bookmymovie-payment	8086
bookmymovie-notification	8087
bookmymovie-utility	8088
bookmymovie-auth	8089

Microservice Datastore Ports

Microservice	Port
bookmymovie-orchestrator	9081
bookmymovie-theater	9082
bookmymovie-cinema	9083
bookmymovie-viewer	9084
bookmymovie-order	9085
bookmymovie-payment	9086
bookmymovie-notification	9087
bookmymovie-utility	9088
bookmymovie-auth	9089

Microservice Deployment

Minukube Deployment

Deployment in Minikube (Kubernetes Cluster)/Docker/Helm. Steps:

- Start Docker Desktop:
  1. Check Docker installation status: `docker –v` OR `docker info`
  2. Check Docker running status: `wls -l -v`

```
Admin@DESKTOP-SGDOOU5 MINGW64 ~
$ wsl -l -v
  NAME              STATE           VERSION
* docker-desktop    Running         2
```

- Install Kubectl: Check status: `kubectl version` OR `kubectl version --client -o json`
- Install Minikube (Kubernetes Cluster).
- Install Istio Daemon inside the Minikube.
- Install/configure Helm.
- Run below Commands:

```
minikube start
minikube docker-env
@FOR /f "tokens=*" %i IN ('minikube -p minikube docker-env --shell cmd') DO @%i
minikube tunnel //Run it in different terminal
kubectl get service istio-ingressgateway -n istio-system
minikube status
kubectl cluster-info
kubectl get nodes -o wide
kubectl create namespace bookmymovie-namespace
kubectl label namespace bookmymovie-namespace istio-injection=enabled
kubectl get namespace -L istio-injection
cd /d F:\Workspace-IntelliJ-POC\bookmymovie-service\bookmymovie-scripts\kubernetes\local
kubectl apply -f gateways.yaml -n bookmymovie-namespace
kubectl get gateway bookmymovie-istio-gateway -n bookmymovie-namespace
```

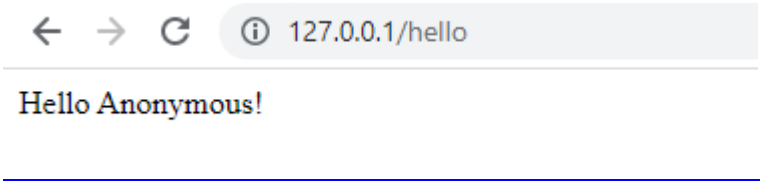
- Build Orchestrator Microservice: build-orchestrator.cmd
- Deploy Orchestrator Microservice: kubernetes-orchestrator.bat
- Validate Orchestrator Microservice:
  Datastore: http://127.0.0.1:80/orchReqTracker
  Smoke: http://127.0.0.1:80/smoke
  Swagger: http://127.0.0.1:80/swagger-ui/index.html
- Similarly Build/Deploy other Microservices: Theater, Cinema, Order, Payment, Viewer: TBD.
- Test Application: If you want to use the host's domain name in the URL (e.g. - http://httpbin.example.com:80/hello), you must configure the requested host properly and DNS resolvable. So here you can access as: http://$INGRESS_HOST:$INGRESS_PORT/hello
  1. Get INGRESS_HOST: `echo INGRESS_HOST=$(kubectl -n istio-system get service istio-ingressgateway -o jsonpath='{.status.loadBalancer.ingress[0].ip}')`

```
iamsabre+SG0313286@AADS5CD127784S MINGW64 ~
$ echo INGRESS_HOST=$(kubectl -n istio-system get service istio-ingressgateway -o jsonpath='{.status.loadBalancer.ingress[0].ip}')
INGRESS_HOST=127.0.0.1
```

  2. Get INGRESS_PORT: `echo INGRESS_PORT=$(kubectl -n istio-system get service istio-ingressgateway -o jsonpath='{.spec.ports[?(@.name=="http2")].port}')`

```
iamsabre+SG0313286@AADS5CD127784S MINGW64 ~
$ echo INGRESS_PORT=$(kubectl -n istio-system get service istio-ingressgateway -o jsonpath='{.spec.ports[?(@.name=="http2")].port}')
INGRESS_PORT=80
```

3. Open API URL in browser: http://127.0.0.1:80/hello



- Notes:
  1. Minikube has a separate Docker Daemon runs inside the Minikube Virtual Machine, which is independent of Docker installed and running on the host

Local Execution

Theater Microservice:
gcloud beta emulators datastore start --project=bookmymovie-db --host-port=0.0.0.0:9082 --data-dir=F:\Program-Files\Firestore-Emulator-Data-Dir
Datastore ping: http://localhost:9082/
Datastore:
http://localhost:8082/city
http://localhost:8082/theater
http://localhost:8082/screen
http://localhost:8082/seat
Smoke: http://localhost:8082/smoke/
Swagger: http://localhost:8082/swagger-ui/index.html

Movie Microservice:
gcloud beta emulators datastore start --project=bookmymovie-db --host-port=0.0.0.0:9083 --data-dir=F:\Program-Files\Firestore-Emulator-Data-Dir
Datastore ping: http://localhost:9083/
Datastore:
http://localhost:8083/movie
http://localhost:8083/movieshow
Smoke: http://localhost:8083/smoke/
Swagger: http://localhost:8083/swagger-ui/index.html

Viewer Microservice:
gcloud beta emulators datastore start --project=bookmymovie-db --host-port=0.0.0.0:9084 --data-dir=F:\Program-Files\Firestore-Emulator-Data-Dir
Datastore ping: http://localhost:9084/
Smoke: http://localhost:8084/smoke/
Datastore: http://localhost:8084/viewer
Swagger: http://localhost:8084/swagger-ui/index.html

Orchestrator Microservice:
gcloud beta emulators datastore start --project=bookmymovie-db --host-port=0.0.0.0:9081 --data-dir=F:\Program-Files\Firestore-Emulator-Data-Dir
Datastore ping: http://localhost:9081/
Datastore: http://localhost:8081/orchReqTracker
Smoke: http://localhost:8081/smoke
Swagger: http://localhost:8081/swagger-ui/index.html

Order Microservice:
gcloud beta emulators datastore start --project=bookmymovie-db --host-port=0.0.0.0:9085 --data-dir=F:\Program-Files\Firestore-Emulator-Data-Dir
Datastore ping: http://localhost:9085/
Datastore: http://localhost:8085/order
Smoke: http://localhost:8085/smoke/
Swagger: http://localhost:8085/swagger-ui/index.html

Payment Microservice:
gcloud beta emulators datastore start --project=bookmymovie-db --host-port=0.0.0.0:9086 --data-dir=F:\Program-Files\Firestore-Emulator-Data-Dir
Datastore ping: http://localhost:9086/
Datastore: http://localhost:8086/payment
Smoke: http://localhost:8086/smoke/
Swagger: http://localhost:8086/swagger-ui/index.html

Notification Microservice:
gcloud beta emulators datastore start --project=bookmymovie-db --host-port=0.0.0.0:9087 --data-dir=F:\Program-Files\Firestore-Emulator-Data-Dir
Datastore ping: http://localhost:9087/
Smoke: http://localhost:8087/smoke /
Swagger: http://localhost:8087/swagger-ui/index.html

Utility Microservice:
gcloud beta emulators datastore start --project=bookmymovie-db --host-port=0.0.0.0:9088 --data-dir=F:\Program-Files\Firestore-Emulator-Data-Dir
Datastore ping: http://localhost:9088/
Smoke: http://localhost:8088/smoke/
Swagger: http://localhost:8088/swagger-ui/index.html

Auth Service:
gcloud beta emulators datastore start --project=bookmymovie-db --host-port=0.0.0.0:9089 --data-dir=F:\Program-Files\Firestore-Emulator-Data-Dir
Datastore ping: http://localhost:9089/
Smoke: http://localhost:8089/smoke/
Swagger: http://localhost:8089/swagger-ui/index.html

Metrics Validation

Micrometer Metrics validation:

- Check Metrics: http://localhost:7081/actuator/metrics


```
{
  "names": [
    "bmm.orch.http.booking.errcount",
    "bmm.orch.http.orchtoorder.errcount",
    "jvm.buffer.count",
    "jvm.buffer.memory.used",
    "jvm.buffer.total.capacity",
    "jvm.classes.loaded",
    "jvm.classes.unloaded",
    "jvm.gc.live.data.size",
    "jvm.gc.max.data.size",
    "jvm.gc.memory.allocated",
    "jvm.gc.memory.promoted",
    "jvm.gc.pause",
    "jvm.memory.committed",
    "jvm.memory.max",
    "jvm.memory.used",
    "jvm.threads.daemon",
    "jvm.threads.live",
    "jvm.threads.peak",
    "jvm.threads.started",
    "jvm.threads.states",
    "logback.events",
    "process.cpu.time",
    "process.cpu.usage",
    "process.start.time",
    "process.uptime",
    "system.cpu.count",
    "system.cpu.usage",
    "tomcat.sessions.active.current",
    "tomcat.sessions.active.max",
    "tomcat.sessions.alive.max",
    "tomcat.sessions.created",
    "tomcat.sessions.expired",
    "tomcat.sessions.rejected"
  ]
}
```


- Check execution: http://localhost:7081/actuator/metrics/bmm.orch.http.orchtoorder.errcount


```
{
  "name": "bmm.orch.http.orchtoorder.errcount",
  "description": "Counts Exception while sending request from Orchestrator to Order",
  "baseUnit": null,
  "measurements": [
    {
      "statistic": "COUNT",
      "value": 1
    }
  ],
  "availableTags": [
    {
      "tag": "environment",
      "values": [
        "LOCAL"
      ]
    }
  ]
}
```

Monorepo

Github Monorepo: https://github.com/palashrc/bookmymovie-service