




































Napredni operativni sistemi

Aplikacija – Docker compose

<input type="checkbox"/>	 treci_proj	-	Running (5/5)	  
<input type="checkbox"/>	 rabbitmq 778e7ec043e1 	rabbitmq:3-management	Running	15672:15672  5672:5672  12 seconds ago   
<input type="checkbox"/>	 appdb 5ee66cc39565 	postgres:latest	Running	5433:5432  12 seconds ago   
<input type="checkbox"/>	 appdb2 81aff83629d4 	postgres:latest	Running	5434:5432  12 seconds ago   
<input type="checkbox"/>	 appmyapiservicedemo2-service 33d1c9034773 	myapiservice2:latest	Running	5010:80  9 seconds ago   
<input type="checkbox"/>	 appmyapiservicedemo-service ee0a4871d289 	myapiservice:latest	Running	5009:80  9 seconds ago   

Simulacijom stream-a podataka sa IoT uređaja

MyApiService2 1.0 OAS3
<http://127.0.0.1:62944/swagger/v1/swagger.json>

Sensor ^

GET /Sensor/get

POST /Sensor/create/{id}/{temp}/{pressure}/{humidity}/{timeC}

POST /Sensor/post

Name	Description
------	-------------

id * required

integer(\$int32)
(path)

0

temp * required

number(\$float)
(path)

40

pressure * required

number(\$float)
(path)

50

humidity * required

number(\$float)
(path)

40

timeC * required

number(\$float)
(path)

1617347400.0

Execute

Clear

Responses

Curl

```
curl -X "POST" \  
  "http://127.0.0.1:62944/Sensor/create/0/40/50/40/1617347400.0" \  
  -H "accept: */*" \  
  -d ""
```

Request URL

http://127.0.0.1:62944/Sensor/create/0/40/50/40/1617347400.0

Server response

Code	Details
------	---------

200

Response body

SensorData created successfully.



Download

RabbitMQ message broker

- Prvi servis preko RabbitMQ servisa salje podatke drugom servisu

```
[x] Received from Rabbit: server processed ID: 0, Temperature: 40, Pressure: 50, Humidity: 40, TimeC: 1.6173475E+09
info: Microsoft.EntityFrameworkCore.Database.Command[20101]
      Executed DbCommand (2ms) [Parameters=[@p0='?' (DbType = Single), @p1='?' (DbType = Single)], CommandType='Text', CommandTimeout='30']
      INSERT INTO "Temps" ("TimeC", "Value")
      VALUES (@p0, @p1)
      RETURNING "Id";
```

Drugi servis skladišti podatke poslate preko RabbitMQ-a. Takodje omogucava prikaz datih podataka.

Temps

GET /Temps/get

Parameters

Cancel

No parameters

ExecuteClear

Responses

Curl

curl -X 'GET' \ 'http://127.0.0.1:63576/Temps/get' \ -H 'accept: */*'

Request URL

http://127.0.0.1:63576/Temps/get

Server response

Code	Details
200	<div><div>Response body<div><div><div><div></div></div><pre>{ "id": 1, "value": 21, "timeC": 1212 }, { "id": 4, "value": 232, "timeC": 1212 }, { "id": 5, "value": 232, "timeC": 1212 }, { "id": 6, "value": 321, "timeC": 321 }, { "id": 7, "value": 46, "timeC": 1617347500 }]</pre></div><div>Download</div></div><div>Response headers<div>content-type: application/json; charset=utf-8 date: Mon, 11 Mar 2024 16:56:45 GMT server: Kestrel transfer-encoding: chunked</div></div></div></div>

Responses

Code	Description	Links
200	Success	No links

Kubernetes

NAME	READY	STATUS	RESTARTS	AGE
pod/app-demo-64fb5c8884-62gpq	1/1	Running	1 (107m ago)	108m
pod/app-demo2-689db96bc5-cwd52	1/1	Running	1 (108m ago)	108m
pod/appdb-5f78c5fd56-n5p94	1/1	Running	0	108m
pod/appdb2-6657499b4-wndm9	1/1	Running	0	108m
pod/rabbitmq-775d597784-dlj92	1/1	Running	0	108m

NAME	TYPE	CLUSTER-IP	EXTERNAL-IP	PORT(S)	AGE
service/app-demo	NodePort	10.98.127.157	<none>	5009:30009/TCP	108m
service/app-demo2	NodePort	10.106.244.28	<none>	5010:30010/TCP	108m
service/appdb	ClusterIP	10.106.15.91	<none>	5433/TCP	108m
service/appdb2	ClusterIP	10.100.29.207	<none>	5434/TCP	108m
service/kubernetes	ClusterIP	10.96.0.1	<none>	443/TCP	4h43m
service/rabbitmq	ClusterIP	10.99.240.101	<none>	5672/TCP,15672/TCP	108m

NAME	READY	UP-TO-DATE	AVAILABLE	AGE
deployment.apps/app-demo	1/1	1	1	108m
deployment.apps/app-demo2	1/1	1	1	108m
deployment.apps/appdb	1/1	1	1	108m
deployment.apps/appdb2	1/1	1	1	108m
deployment.apps/rabbitmq	1/1	1	1	108m

NAME	DESIRED	CURRENT	READY	AGE
replicaset.apps/app-demo-64fb5c8884	1	1	1	108m
replicaset.apps/app-demo2-689db96bc5	1	1	1	108m
replicaset.apps/appdb-5f78c5fd56	1	1	1	108m
replicaset.apps/appdb2-6657499b4	1	1	1	108m
replicaset.apps/rabbitmq-775d597784	1	1	1	108m

Kubernetes - skaliranje

```
scale deployment appdb2 --replicas=3
```

NAME	READY	STATUS	RESTARTS	AGE
pod/app-demo-64fb5c8884-62gpq	1/1	Running	1 (109m ago)	109m
pod/app-demo2-689db96bc5-cwd52	1/1	Running	1 (109m ago)	109m
pod/appdb-5f78c5fd56-n5p94	1/1	Running	0	109m
pod/appdb2-6657499b4-ht626	1/1	Running	0	13s
pod/appdb2-6657499b4-q4c56	1/1	Running	0	13s
pod/appdb2-6657499b4-wndm9	1/1	Running	0	109m
pod/rabbitmq-775d597784-dlj92	1/1	Running	0	109m

NAME	TYPE	CLUSTER-IP	EXTERNAL-IP	PORT(S)	AGE
service/app-demo	NodePort	10.98.127.157	<none>	5009:30009/TCP	109m
service/app-demo2	NodePort	10.106.244.28	<none>	5010:30010/TCP	109m
service/appdb	ClusterIP	10.106.15.91	<none>	5433/TCP	109m
service/appdb2	ClusterIP	10.100.29.207	<none>	5434/TCP	109m
service/kubernetes	ClusterIP	10.96.0.1	<none>	443/TCP	4h44m
service/rabbitmq	ClusterIP	10.99.240.101	<none>	5672/TCP,15672/TCP	109m

NAME	READY	UP-TO-DATE	AVAILABLE	AGE
deployment.apps/app-demo	1/1	1	1	109m
deployment.apps/app-demo2	1/1	1	1	109m
deployment.apps/appdb	1/1	1	1	109m
deployment.apps/appdb2	3/3	3	3	109m
deployment.apps/rabbitmq	1/1	1	1	109m

NAME	DESIRED	CURRENT	READY	AGE
replicaset.apps/app-demo-64fb5c8884	1	1	1	109m
replicaset.apps/app-demo2-689db96bc5	1	1	1	109m
replicaset.apps/appdb-5f78c5fd56	1	1	1	109m
replicaset.apps/appdb2-6657499b4	3	3	3	109m
replicaset.apps/rabbitmq-775d597784	1	1	1	109m

```
restartPolicy: Always
```

```
minReplicas: 1
```

```
maxReplicas: 10
```

```
targetCPUUtilizationPercentage: 50
```