

Department of Computer Science & Engineering

QUESTION BANK FOR VII SEM (CSE) (Autonomous Syllabus)

Subject Code: CSL77
TERM: OCT 2021 – FEB 2022
I.A. Marks: 50
Subject Name: Micro Services Lab
Exam Hours: 03
Credits: 0:0:1
Exam Marks: 50

PART-A

(Open Book with Internet)

Develop Simple Microservices with the following features.

- Create minimum two Micro Services for the given use case. (a separate use case will be provided for each batch on the day of examination)
- Create Discovery Service (Creating Eureka Discovery Service)
- Register with Discovery Service.
- Create a API Gateway acts as a single entry point for a collection of micro services

PART-B

(Closed Book without Internet)

1.	Create a simple deployment of the given app with name of your choice and 3 replicas of pods. Check the status of pod by sending request. App should be accessed from outside the cluster and Use port forwarding to access applications in a cluster
2.	Demonstrate the updation of image in live container in a pod using command line as well as by updating yaml files
3.	Create busybox pod with two containers, each one will have the image busybox and will run the 'sleep 3600' command. Make both containers mount an emptyDir at '/etc/foo'. Connect to the second busybox, write the first column of '/etc/passwd' file to '/etc/foo/passwd'. Connect to the first busybox and write '/etc/foo/passwd' file to standard output. Delete pod.
4.	Perform the following. a) Create 3 pods with names nginx1, nginx2,nginx3. All of them should have the label app=v1 Show all labels of the pods. b) Get only the 'app=v2' pods. c) Remove the 'app' label from the pods we created before
5.	Implement and demonstrate Multi-Container Pod
6.	Create a Pod with ubuntu image and a command to echo "YOUR_NAME" which overrides the default CMD/ENTRYPOINT of the image.

7.	Create a deployment with image nginx:1.7.8, called nginx, having 2 replicas, defining port 80 as the port that this container exposes a) Check how the deployment rollout is going b) Update the nginx image to nginx:1.7.9 c) Check the rollout history and confirm that the replicas are OK d) Undo the latest rollout and verify that new pods have the old image (nginx:1.7.8) e) Do an on purpose update of the deployment with a wrong image nginx:1.91 f) Verify that something's wrong with the rollout g) Return the deployment to the second revision (number 2) and verify the image is nginx:1.7.9 h) Check the details of the fourth revision
8.	Implement and demonstrate how to expose multiple port in kubernetes services or Multi-Port Services
9.	Create a Pod that runs one container. The configuration file for the Pod defines a command and arguments by using environment variables
10.	Create a Pod that runs two Containers. The two containers share a Volume that they can use to communicate.

Marks Distribution:

Conduction and Result	Write-Up	Execution	Viva	Change of Program	Total
Part – a	4	28	3	Not allowed	50 Marks
Part – b	4	11		-3 marks	