# SWE523 PROJECT STUDY 5 (2025)
Microservice Architecture with Kubernetes Deployment

Due date: 26 Dec 2025, class time.

In this study, you will deploy your micro-service architecture implementation on Kubernetes cluster (see Figure 1). You can use "minicube" as Kubernetes cluster installed on your computer. You are supposed to implement and show the following steps:
- Obtain jar files, and then docker images for each service using proper dockerfiles. Name image files properly and have them ready in your local repository (no need to push them Docker Hub).
- Pull database server image before presentation into your local repository.
- Create 2 yaml files for each micro service: One for service app. and the other will be for service database. Use the same image for database server of three services.
  (PS: You can use the example yaml files given in Sabis. Modifying them for your project would be sufficient.)
- Presentations will be done on your local computer. Install and start minicube.
- Start each service using "kubectl" command, for instance "> kubectl create -f service1.yaml".
- Test your application using Postman or browser.
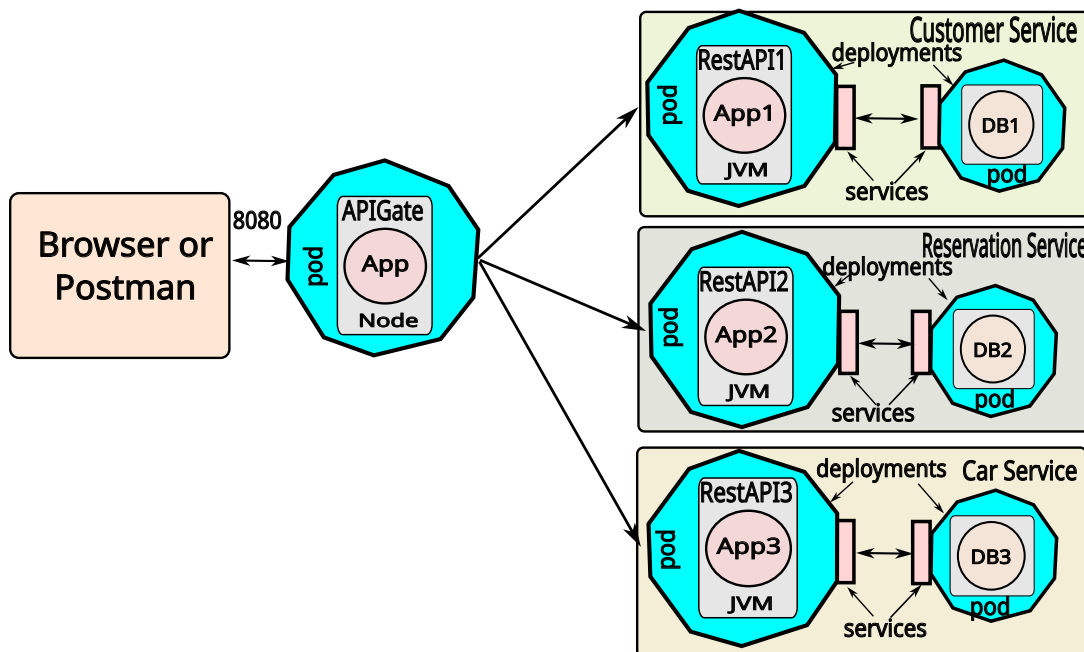
Figure 1. Micro-service structure on Kubernetes deployment.

Grading:

No	Task	Grade
1	Docker images of service apps are created, a database image pulled and configured correctly.	10
2	Service deployment scripts are running and environment parameters are handled correctly.	20
3	Database deployment scripts are running and start-up env. parameters are handled correctly.	20
4	Services (network connections between deployment pods) are working as expected.	20
5	Each service work correctly.	20
6	Everything works as described with no error, exceptions handled properly.	10

PS: Student must show up for presentation to collect points.