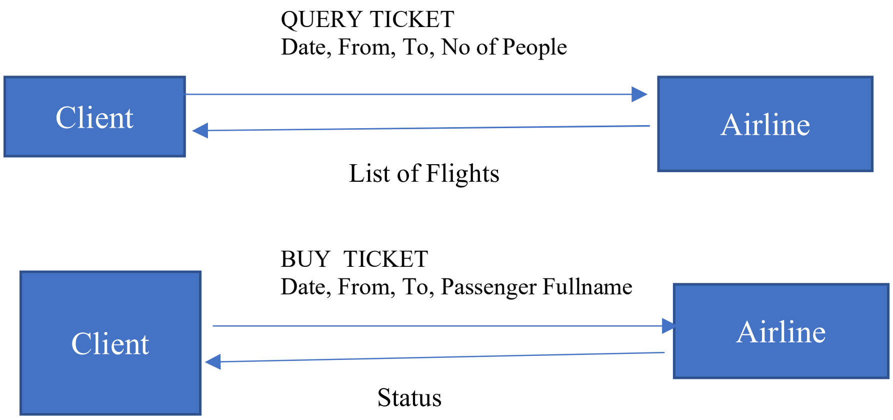
SE 4458 Software Architecture & Design of Modern Large Scale Systems - Midterm 1

Group 1 – API Project for an Airline Company

Create an API project that will perform below requirements

In a fictitious airline company, clients want to do ticketing transactions using web services with the company



Required REST web services
QUERY TICKET

- Query with date, from, to and number of people
- Return list of flights (date, flight no, price). Must support paging
- Authentication not needed

BUY TICKET

- Perform buy transaction using date, from, to, passenger name
- Book one seat from the flight. Number of available seats must decrease after booking
- Return status
- No payment transaction needed
- Authentication by username/password needed

Students

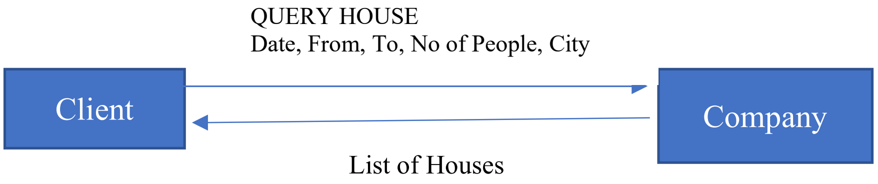
BAHA JİYAN YILMAZ EYLÜL ÖZATMAN YARKIN ATAÇ AHMET KOÇ EFE ALTIN DENGİN DİKEN BERK POLAT	BERKAY AKAR UMUT ARICI EGE DEMİR DOĞA KAYRA YILMAZARSLAN SELİM YAYLALI ALPEREN GÖKBAK

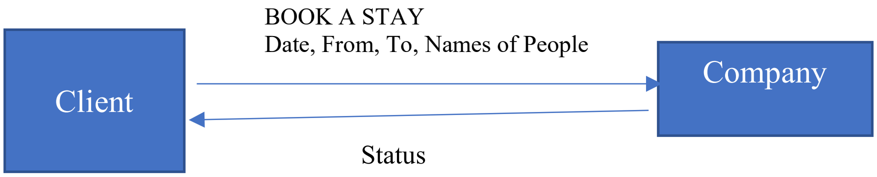
ATAKAN DOĞAN	METEHAN UGUS

Group 2 – API project for a travel company

Create an API project that will perform below requirements

In a fictitious short-term stay travel company (i.e Airbnb), clients want to search and book houses using web services with the company





Required REST web services
QUERY HOUSES

- Query with date, from, to and number of people
- Return list of houses with their descriptions, amenities. Must support paging
- No authentication needed

BOOK A STAY

- Perform booking using dates, from, to, names
- If houses is queried again for given dates, it should not be available
- Return status
- No payment transaction needed
- Authentication by username/password needed

Students

ZÜLAL SÜMER	CEYDA BAŞOĞLU
ÇAĞAN ŞEVKETOĞLU	ECE MUTLU
ALİ ALP KÜREL	İHSAN EFE UZUN
KORAY CAN YILMAZ	MEHMET KOCAGÖZ
NURİ CAN ÖZTÜRK	İREMSU KOÇ
ERİNÇ AK	BERKAY CEYLAN
BÜŞRA SU ALTIN	ROJBIN VEFACAN AGTAS

COMMON REQUIREMENTS

- Every student will do their own midterm, no groups
- All REST services must be versionable
- At least one service must support paging
- For authentication, JWT or Oauth can be implemented. Please check the examples from class
- Must have Swagger UI or document
- You can choose any development environment you like as long as they support REST services.
- You can make assumptions as long as you document them
- create a data model and use a database service from any cloud service you like (preferably Azure + 10 points). Use local services if you cant
- For API hosting, use a cloud service (+10 points) or local application server service

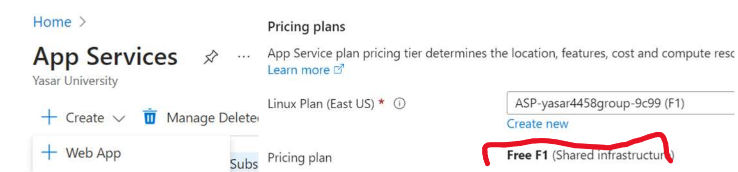
DELIVERABLES

- A readme document in your github code repo that has
  - code link to source code of the project i.e github, bitbucket
  - your design, assumptions, and issues you encountered.
  - Data model (i.e an ER)
  - Include a link to a short video presenting your project (+5 points if you store video on a cloud storage service)

TodoApi WebApi code below is based on https://learn.microsoft.com/en-us/aspnet/core/tutorials/first-web-api?view=aspnetcore-7.0&tabs=visual-studio-code	
TodoApi Code source	https://github.com/southriver/code/tree/master/TodoApi
TodoApi Sample code deployed	https://yasar4458.azurewebsites.net/
Below is code from class	
Class Samples	https://github.com/southriver/WebApplicationAPI

Resources for creating REST services in different environments

- .NET - Sample webapi project in VSCode
  - https://learn.microsoft.com/en-us/aspnet/core/tutorials/first-web-api?view=aspnetcore-7.0&tabs=visual-studio-code
- Deploying to Azure App service via VS Code
  - https://davidgiard.com/deploying-a-web-app-to-azure-from-visual-studio-code
  - Make sure you choose F1 Free version in Azure for App Service that you will be creating
  - https://youtu.be/DUfPaY6FRII?si=X9pI0hhN209N3vwn



Pricing plans

App Service plan pricing tier determines the location, features, cost and compute resc

Learn more

Linux Plan (East US) * : ASP-yasar4458group-9c99 (F1)

Create new

Pricing plan: **Free F1** (Shared infrastructure)

- PYTHON – Using flask
  - https://dev.to/mursalfk/setup-flask-on-windows-system-using-vs-code-4p9j
  - https://www.freecodecamp.org/news/how-to-dockerize-a-flask-app/

- JAVA - Host a Spring Boot application
  - https://www.baeldung.com/rest-with-spring-series
  - https://javawhizz.com/2023/03/host-a-spring-boot-application-for-free-on-render