Modern Topics in IT

Assignment 04: Microservices

Objective: The objective of this assignment is to check students' knowledge regarding Microservices, its underlying architecture and best practices when implementing microservices.

Percentage of overall: 10%

Microservices Assignment 04

Guidelines: -

A. Assignment is an open-ended assignment. Creativity is up to you to decide.

B. In addition to the Lecture and practical refer some online tutorials from internet and try out this exercise and you have to develop and integrate your own microservices.

C. Marks will be allocated for given deliverables, and marking scheme is given below.

D. You will have to submit the implementation before the deadline. (Late submissions are not accepted; 50% marks will be decreased from overall marks for any delays).

E. This is a Group assignment.

F. If the code has been directly copied from the internet or from a pier at any level, it will be considered as a plagiarism act and dealt with accordingly. (Please note that we will be using software to check for any plagiarism).

Question:

You can select any business scenario and identify 04 or more components in the scenario for design and implementation. Use microservices to implement those components and since this is an open-ended question the creativity is up to you to decide. Each individual member in the group involves with the implementation and should perform CRUD operations as well. To implement the solution, you can use any programming language. The communication among the microservices should inter dependents according to the service dependency.

1. Come up with a component diagram identifying key business components in the system.
2. Implement and integrate (four) microservices using any given language but there should be four components as listed above. **[If you implemented more than four microservices, you would get additional marks for creativity]**

Report: (You should provide a report that includes below details),

A. Explain the solution using a component diagram.
B. Clearly mention each individual member's contribution and add screenshots of the outputs as evidence.
C. Steps to deploy and test (for marking purpose).
D. Include student IDs, names, and the Group ID in the report and create one zip file using your Group ID and upload it to the Course web. When you zip the solution don't include any libraries and make sure the size less than 10MB.

Marking Scheme

Description	Allocated Marks	Received Marks			
		Leader	Member 02	Member 03	Member 04
Explained and identified business domains using the component diagram.	**02**				
Microservice Implementation • Coding conventions and best practices • Product Implementation • CRUD operations	**04**				
Report (Include screenshots of the outputs)	**02**				
Complexity of the scenario	**02**				
Total	**10**				