Practical 7

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Aim: Case study on Microservices and implementation of microservices in application

Theory:

Microservices are a software architecture pattern that promotes the use of small, independent applications. They are designed to make services more manageable, since they can be developed in isolation.

Microservices architecture helps to reduce the complexity of the system by breaking it into smaller components. It helps developers to write better quality code usually with improved modularity, scalability and high availability. This also allows developers to work on different components separately which is often advantageous when there are many dependencies or tight coupling between components.The introduction of microservices in an application is usually triggered by a need for increased scalability or modularity.

Microservices allows the development and deployment of application components as small, independent services with minimal overhead and gives various benefits like:

- The duplication of code across different microservices is reduced
- A microservice can be changed without affecting other parts of the system
- A failed microservice can be replaced
- Testing and deploying a single microservice is faster than testing and deploying all components

An example of microservices is what Netflix has done with their platform. They created many small teams that work on individual services like streaming, discovery, personalization and recommendation. The teams can independently run tests on their service without affecting the other parts of the system. This allows them to save time and money by quickly implementing changes or fixing bugs without disrupting the entire platform.

the process of implementing microservices in a real-world web application. In this scenario, an online retailer has been using a monolithic architecture for their online store for the past few years. They have found that their application is becoming slower with each passing day and it is no longer able to effectively handle the ever-growing traffic.

This can be avoided by converting the monolithic application into multiple microservices working together.

Conclusion:

We studied about Microservices and implementation of microservices in application