

Software Design and Architecture.

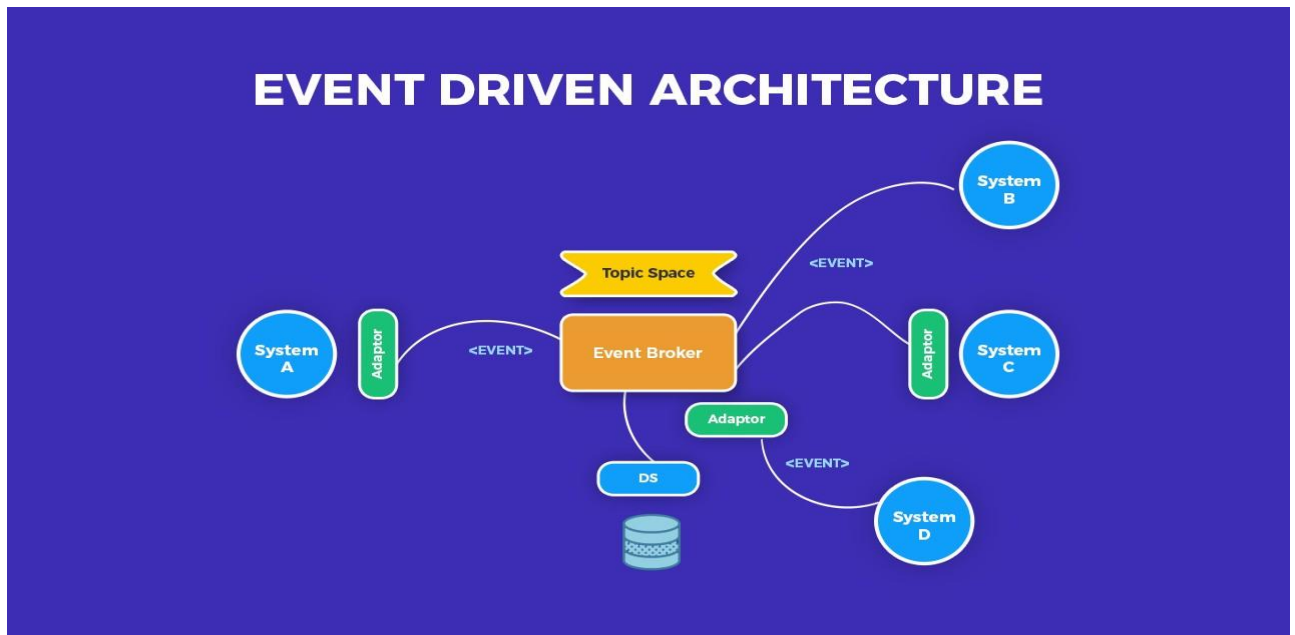
2023

A research about Software architecture used by Singapore Airlines “ Event-Driven architecture “.

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I- Event-Driven architecture



Event-driven architecture (EDA) is a design pattern in which the system responds to external events, rather than being continuously polled for changes. Singapore Airlines has implemented EDA in various parts of its business operations to improve efficiency and responsiveness.

II- singapore Airlines

One of the key areas where Singapore Airlines has implemented EDA is in its inventory management system. The airline's inventory system is based on a real-time, event-driven architecture that allows for immediate updates to inventory availability as bookings are made or changed. This allows Singapore Airlines to quickly respond to changes in demand, and ensure that inventory is always available to meet customer needs.

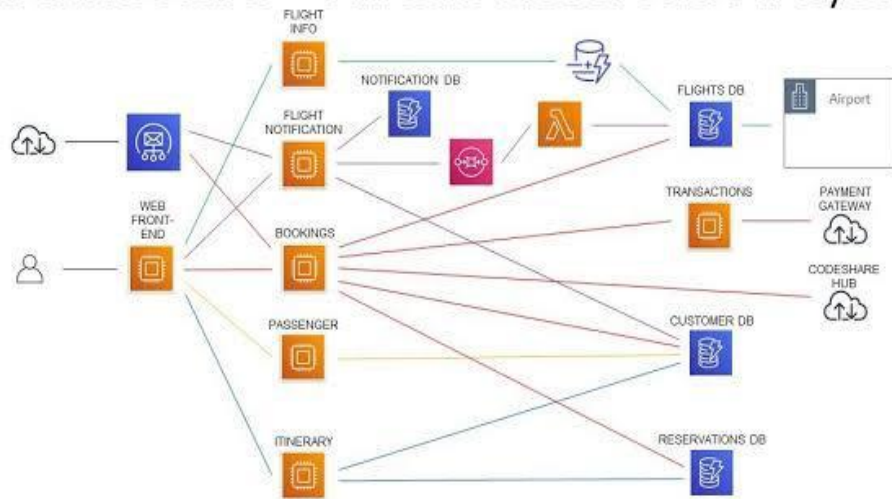
Another area where Singapore Airlines has implemented EDA is in its flight operation system. The airline uses a real-time, event-driven system that tracks the progress of flights and updates flight information in real-time. This allows the airline to quickly respond to any changes in flight status, such as delays or cancellations, and communicate the information to customers and other stakeholders in a timely manner.

In addition, Singapore Airlines has also implemented EDA in its loyalty program. The airline's loyalty program is based on a real-time, event-driven system that tracks customer interactions and updates rewards and benefits in real-time. This allows the airline to quickly respond to changes in customer behaviour, and ensure that rewards and benefits are always aligned with customer needs.

Overall, Singapore Airlines has implemented EDA in various areas of its business operations, including inventory management, flight operations, and loyalty program. These systems have helped the airline to improve efficiency, responsiveness, and customer service.

III- Digram

Architecture – Airline Reservation System



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IV- Resources

- 1- <https://nexocode.com/blog/posts/event-driven-architecture-examples-in-logistics-apache-kafka-to-handle-supply-chain-network/>.
- 2- <https://get.oreilly.com/rs/107-FMS-070/images/Software-Architecture-Patterns.pdf>