

Upgrade2Architect Program

Session #2

Design and Architecture patterns

EMPOWERING High Performance
Technology Teams

Agenda for the Day

S.No.	Schedule	Item	Duration
1	09.00 to 09.50 a.m.	High Level overview of Design and Architecture pattens	50 Mins
2	09.50 to 10.00 a.m.	Break	10 Mins
3	10.00 to 10.40 a.m.	Real time examples of Design and Architecture pattens	40 mins
4	10.40 to 11.00 a.m.	Interaction Time for Q&A	20 mins

Note: For sessions that are completely demo/Lab or notebook based, please keep one agenda slide and explain the same thing in the beginning so that participants are aware they do not have PPT.

Design and Architecture patterns

1. Circuit breaker
2. Event sourcing
3. Hexagonal architecture
4. Publish-subscribe
5. Retry with backoff



Circuit breaker pattern



Circuit breaker with payment service failure



Circuit breaker stops routing to payment service



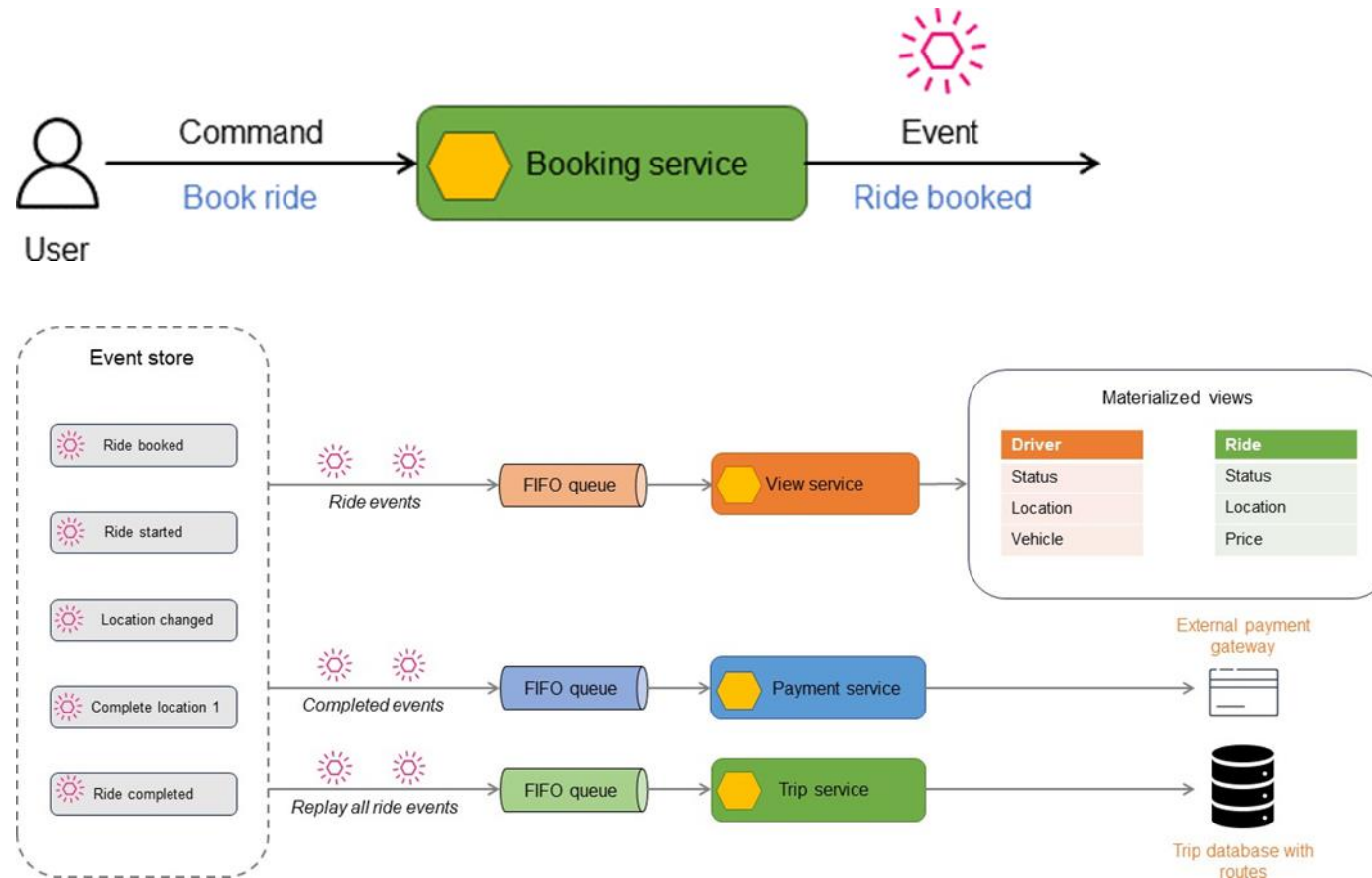
Circuit breaker periodically retries payment service



Circuit breaker with working payment service

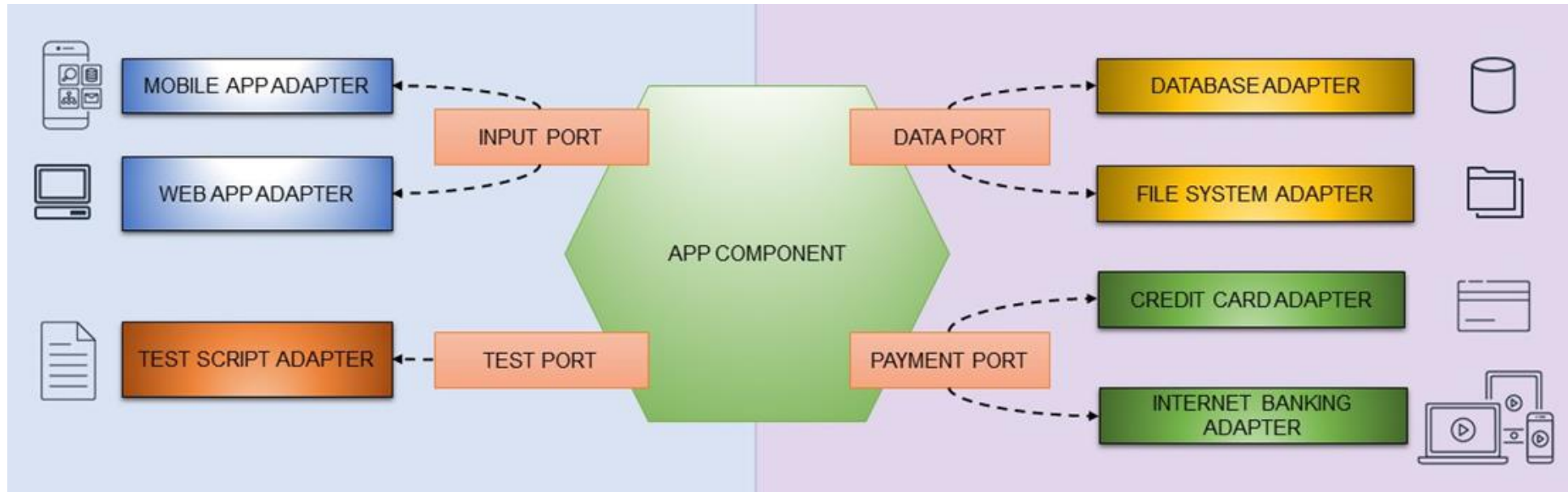
High-level architecture

Event sourcing pattern



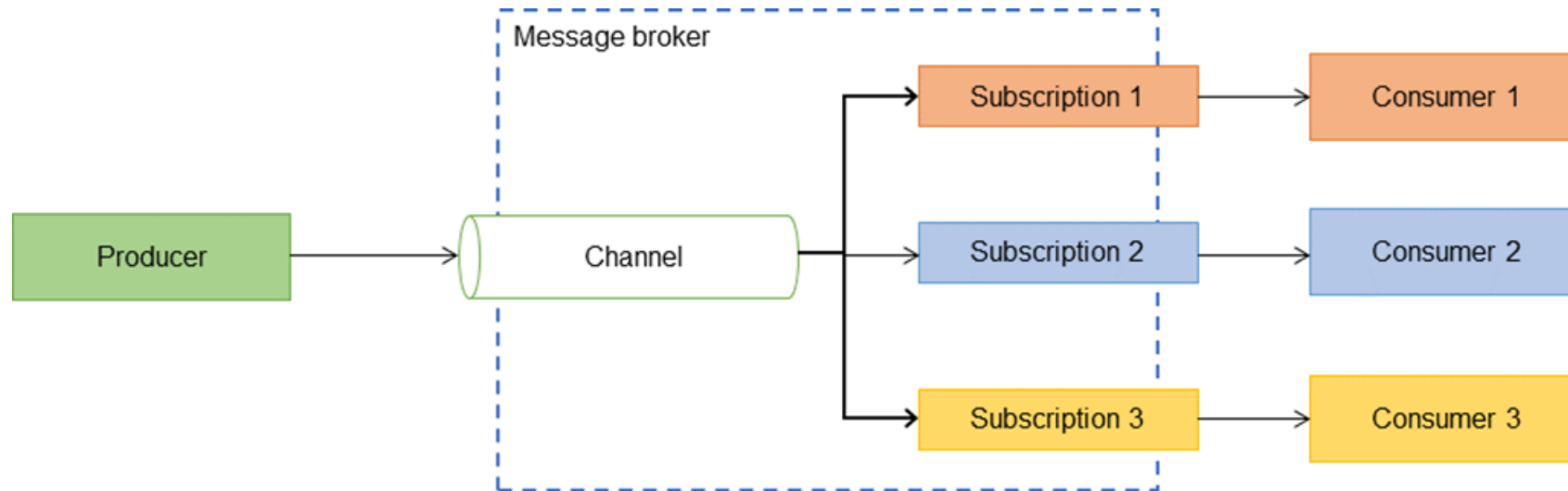
High-level architecture

Hexagonal architecture pattern



High-level architecture

Publish-subscribe pattern



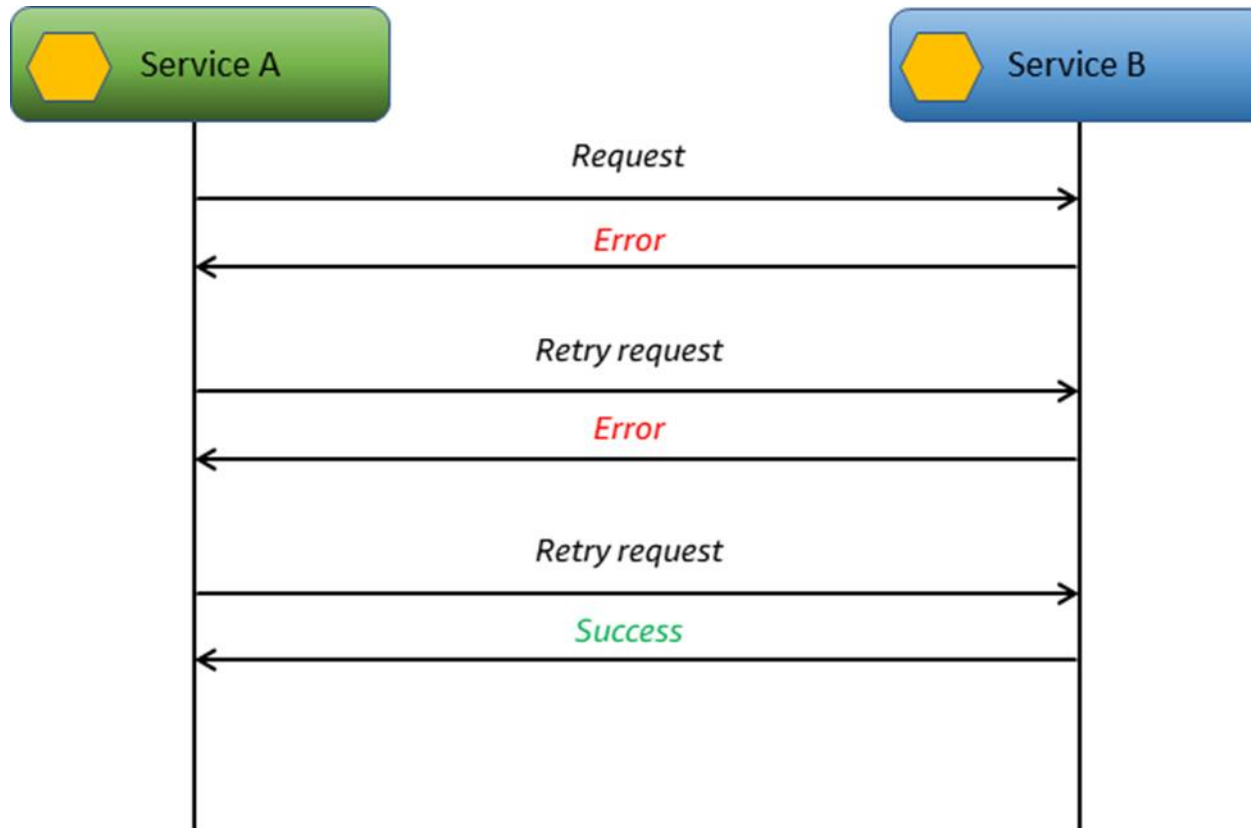
High-level architecture

Publish-subscribe pattern



High-level architecture

Retry with backoff pattern



High-level architecture

Overall Summary

By using the patterns to modernize your applications, you can:

- Design and implement reliable, secure, operationally efficient architectures
- Optimize for cost and performance.
- Reduce the cycle time for use cases that require these patterns,
- Focus on organization-specific challenges.
- Accelerate development by standardizing pattern implementations by using AWS services.
- Help your developers build modern applications
- Avoid inheriting technical debt.

THANK YOU