



Spring Boot Microservices

Beginner to Guru

Order Allocation Saga



Order Allocation Saga

- Order Allocation is the process of assigning inventory to an order
- Order Allocation Steps:
 - Validate Order
 - Allocate Inventory
 - Update Order with result of Allocation
 - Order Delivered



Order Allocation in Beer Services

- Order Allocation Steps:
 - **Validate Order** - Call Beer Service, validate beers ordered
 - **Allocate Inventory** - Inventory Service Checks for Available Inventory
 - **Update Order with Result of Allocation** - Receive Allocation Action
 - **Order Delivered** - Gone from system



Order Cancellation

- Order Cancellation Can Happen Until Delivery
- Order Cancellation Steps:
 - Update Order Status to Canceled
 - If Allocated, Release Inventory

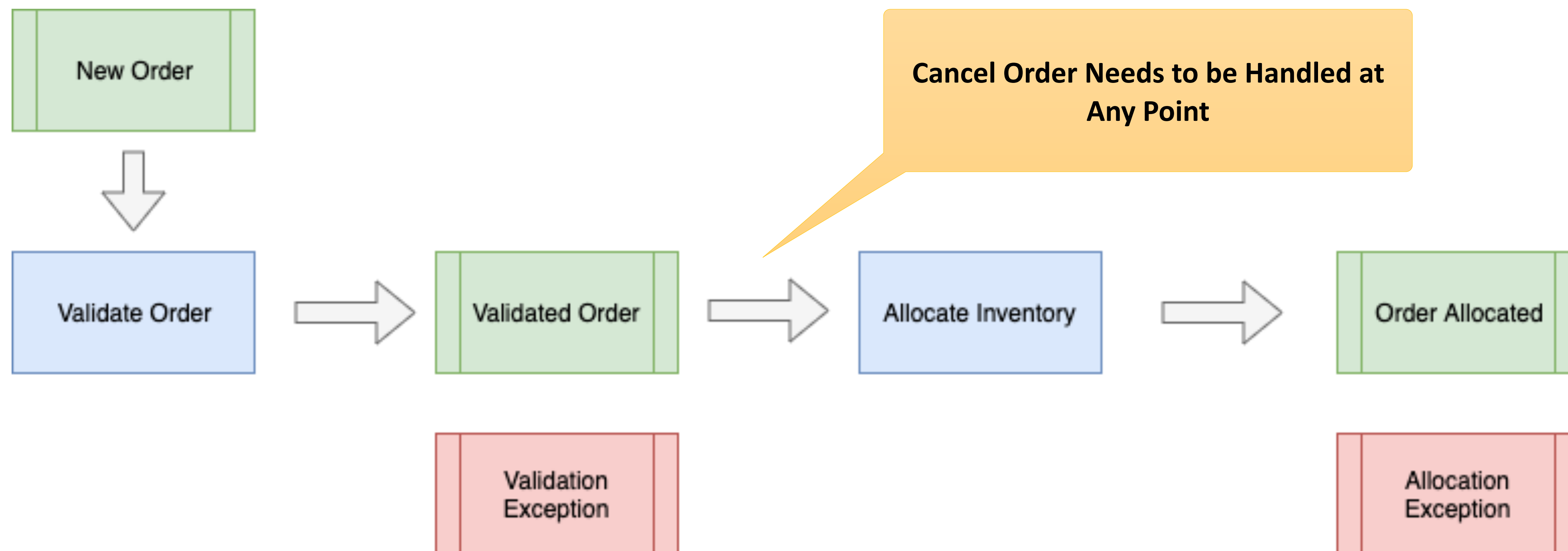


Orchestration Saga

- Need Saga Coordinator for Order Allocation
- Will sequence steps of Microservices to perform Order Allocation
- Accommodate 'happy path' of Order Allocation
- Apply compensating transactions if there are errors
- Handle Order Cancellation



Orchestration Saga





Saga Execution Coordinator

- Saga Execution Coordinator
 - Implement using Spring State Machine
 - **Events** - VALIDATE_ORDER, VALIDATION_PASSED, VALIDATION_FAILED, ALLOCATION_SUCCESS, ALLOCATION_NO_INVENTORY, ALLOCATION_FAILED, BEER_ORDER_PICKED_UP, CANCEL_ORDER
 - **States** - NEW, VALIDATED, VALIDATION_EXCEPTION, ALLOCATED, ALLOCATION_ERROR, PENDING_INVENTORY, PICKED_UP, DELIVERED, DELIVERY_EXCEPTION, CANCELED

