Project Status Report - GBC\_EventBooking

Project Name: GBC\_EventBooking-GroupNo2

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| Part | PartName | Requirement | Implemented? (Y/N) | Details / Explanation |
| **Part 1** | Secure API Gateway | Setup Spring Cloud Gateway as the entry point to route requests to microservices | Y | N/A |
|  |  | Integrate Keycloak to manage authentication | Y | N/A |
|  |  | Configure the API Gateway to use Keycloak for securing all microservices | Y | N/A |
|  |  | Ensure that only authenticated users can access specific services | Y | N/A |
|  |  | Role-based access through Keycloak | N | Couldn’t implement it was able to implement but unable to get the token then |
| Part 2 | Enhanced Inter-Service Communication with Kafka and Schema Registry | Implement Kafka for asynchronous event handling | Y | N/A |
|  |  | BookingService should publish booking events to Kafka | Y | N/A |
|  |  | EventService should consume booking events | Y | N/A |
|  |  | Register and manage schemas in Schema Registry | Y | Implemented locally |
|  |  | Ensure schema compatibility between services | Y | Implemented locally |
| Part 3 | Circuit Breaker Pattern with Resilience4J | Apply Circuit Breaker to critical inter-service calls | Y | N/A |
|  |  | Configure Circuit Breaker in BookingService for RoomService availability | Y | N/A |
|  |  | Configure Circuit Breaker in ApprovalService for UserService role fetching | Y | N/A |
|  |  | Implement fallback strategies for each Circuit Breaker | Y | N/A |
| Part 4 | Observability with Grafana Stack | Set up Prometheus to collect metrics | N/A | Removed by prof as an requirement to get full marks |
| Part 5 | API Documentation with Swagger | Integrate Swagger into each microservice | Y | N/A |
|  |  | Aggregate Swagger documentation through API Gateway | Y | N/A |
|  |  | Ensure complete API documentation is accessible | Y | N/A |