Train Ticket Reservation System
Comprehensive Test Report
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Test Coverage Overview

Test Coverage Breakdown

Servlets Tested — Utility Classes Tested — Service Implementations — Untested Components

Test Type Distribution and Complexity

Test Case Complexity

Decision Table Testing, Error Handling, Edge Case Testing, State Transition, Performance Testing, Security Testing
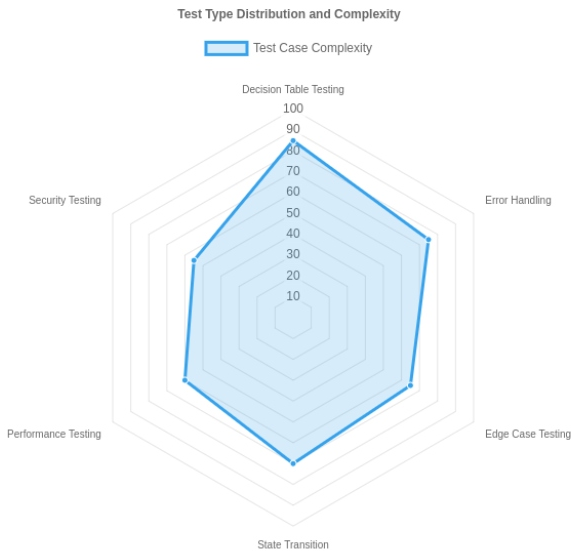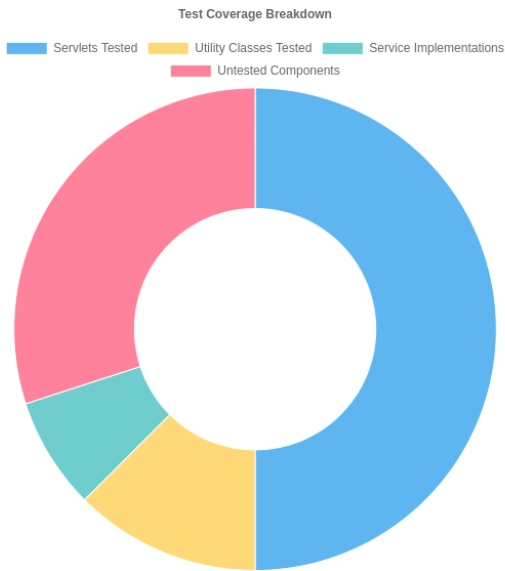
Detailed Test Cases

Test Case ID	Module	Scenario	Input Conditions	Expected Behavior	Boundary Conditions
EC001	User Registration	Extreme Name Length	First Name: 250 character string Last Name: 250 character string	Handle long input	1. Max length validation
2. Truncation handling	Medium				

ID	Feature	Scenario	Input	Objective	Test Steps
EC002	Train Booking	Massive Seat Booking	Seats: Integer.MAX_VALUE	Prevent integer overflow	1. Seat limit enforcement
2. Integer range check	High				
EC003	Fare Calculation	Extreme Fare Values	Fare: Extremely large/small values	Prevent calculation errors	1. Decimal precision
2. Range validation	High				
EC004	Date Handling	Extreme Date Scenarios	Journey Date: Far past/future dates	Validate date ranges	1. Realistic date range
2. Leap year handling	Medium				
EC005	Phone Number Validation	International Number Formats	Phone: Various global formats	Support multiple formats	1. Regex validation
2. Country code handling	Low				
EC006	Special Character Handling	Unicode and Special Chars	Input: Multiple language scripts Special Characters: Complex inputs	Proper encoding support	1. Unicode handling
2. Character set validation	Medium				
EC007	Concurrent User Scenarios	Simultaneous Bookings	Multiple users booking same train	Prevent race conditions	1. Transaction isolation

2. Seat locking mechanism	High				
EC008	Performance Boundary	High Load Simulation	Massive concurrent requests	System stability	1. Connection pooling
2. Request queuing	Critical				

Test Methodology

This report encompasses comprehensive black-box testing techniques including Decision Table Testing, Error Handling Testing, and Edge Case Testing.