TRANSACTION: Booking Creation

[Front Desk]
    |
    v
[Check Guest Exists]
    |
    v
[Guests Table]

[Front Desk]
    |
    v
[Check Room Status & Availability]
    |
    v
[Rooms Table]

[Front Desk]
    |
    v
[Check Overlapping Bookings]
    |
    v
[Bookings Table]

[Front Desk]
    |
    v
[Insert New Booking]
    |
    v
[Bookings Table]

[Update Room Status → Reserved]
    |
    v
[Rooms Table]

Pathway 2 ────────────── Check-In
⟨ ─────────────────────────────────── ⟩

TRANSACTION: Check-In

[Front Desk]
   |
   v
[Select Booking (FOR UPDATE)]
   |
   v
[Bookings Table]

[Front Desk]
   |
   v
[Check Room Status]
   |
   v
[Rooms Table]

[Optional: Verify Payments Completed]
   |
   v
[Payments Table]

[Update Booking_Status → Checked-In]
   |
   v
[Bookings Table]

[Update Room Status → Occupied]
   |
   v
[Rooms Table]

_____

Pathway 3 — Check-Out
⟨ ────────────────────────────────── ⟩

TRANSACTION: Check-Out

```
[Front Desk]
    |
    v
[Select Booking (FOR UPDATE)]
    |
    v
[Bookings Table]

[Front Desk]
    |
    v
[Calculate Services Total]
    |
    v
[Booking_Services Table]

[Front Desk]
    |
    v
[Verify Payment Coverage]
    |
    v
[Payments Table]

[Optional: Insert Final Payment]
    |
    v
[Payments Table]

[Update Booking_Status → Checked-Out]
    |
    v
[Bookings Table]

[Update Room Status → Available]
    |
    v
[Rooms Table]
```

_____

Pathway 4 — Cancel Booking

⟨ -- ⟩

TRANSACTION: Cancel Booking

```
[Front Desk]
    |
    v
[Select Booking (FOR UPDATE)]
    |
    v
[Bookings Table]

[Update Booking_Status → Cancelled]
    |
    v
[Bookings Table]

[Check if Other Active Bookings Exist]
    |
    v
[Bookings Table]

[If None → Update Room Status → Available]
    |
    v
[Rooms Table]

[Optional: Refund Payment]
    |
    v
[Payments Table]
```

Pathway 5 — Add Service to Booking

⟨ -- ⟩

TRANSACTION: Add Service to Booking

```
[Front Desk]
    |
    v
[Select Booking (FOR UPDATE)]
    |
    v
```

[Bookings Table]

[Read Service Info]
    |
    v
[Services Table]

[Insert New Booking_Service]
    |
    v
[Booking_Services Table]

[Optional: Update Total_Price]
    |
    v
[Bookings Table]

_____

Pathway 6 — Process Payment

‹ ——————————————————————————————————— ›

TRANSACTION: Process Payment

[Front Desk / Guest]
    |
    v
[Lock Booking (FOR UPDATE)]
    |
    v
[Bookings Table]

[Insert Payment Record]
    |
    v
[Payments Table]

[Check if Paid >= Total_Price]
    |
    v
[Payments Table]

[Optional: Mark Booking Payment Status → Paid]

```
       |
       v
[Bookings Table]
```

_____

Pathway 7 — Update Room Status
〈   --------------------------------------   〉

TRANSACTION: Update Room Status

```
[Maintenance / Manager]
     |
     v
[Select Room (FOR UPDATE)]
     |
     v
[Rooms Table]

[Check Active Overlapping Bookings]
     |
     v
[Bookings Table]

[If Safe → Update Room Status]
     |
     v
[Rooms Table]
```

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