Travel Agent Management System API Test Results

```
=== Travel Agent Management System API Test Script ===
This script will test all endpoints of your microservices
application
Mon Apr 21 12:37:19 PM IST 2025

=== Testing Agent Service ===
Testing: Create a new agent
URL: POST http://localhost:8000/agents
Payload: {
    "name": "John Smith",
    "email": "john@example.com",
    "phone": "123-456-7890",
    "availability": {
        "days": ["Monday", "Wednesday", "Friday"],
        "shift": "morning"
    }
}
Success! Response:
{
  "id": "1bc6b65e-233c-453c-a916-8763e03e27bd",
  "name": "John Smith",
  "email": "john@example.com",
  "phone": "123-456-7890",
  "rating": 0.0,
  "availability": {
    "days": [
      "Monday",
      "Wednesday",
      "Friday"
    ],
    "shift": "morning"
  }
}
Created agent with ID: 1bc6b65e-233c-453c-a916-8763e03e27bd

Testing: List all agents
URL: GET http://localhost:8000/agents
Success! Response:
```

```
[
  {
    "id": "1bc6b65e-233c-453c-a916-8763e03e27bd",
    "name": "John Smith",
    "email": "john@example.com",
    "phone": "123-456-7890",
    "rating": 0.0,
    "availability": {
      "days": [
        "Monday",
        "Wednesday",
        "Friday"
      ],
      "shift": "morning"
    }
  }
]
```

Testing: Get specific agent
URL: GET http://localhost:8000/agents/1bc6b65e-233c-453c-a916-8763e03e27bd
Success! Response:

```
{
  "id": "1bc6b65e-233c-453c-a916-8763e03e27bd",
  "name": "John Smith",
  "email": "john@example.com",
  "phone": "123-456-7890",
  "rating": 0.0,
  "availability": {
    "days": [
      "Monday",
      "Wednesday",
      "Friday"
    ],
    "shift": "morning"
  }
}
```

Testing: Update agent availability
URL: PUT http://localhost:8000/agents/1bc6b65e-233c-453c-a916-8763e03e27bd/availability
Payload: {
    "days": ["Tuesday", "Thursday"],
    "shift": "evening"
```

```
}
Success! Response:
{
  "days": [
    "Tuesday",
    "Thursday"
  ],
  "shift": "evening"
}

Testing: Get agent availability
URL: GET http://localhost:8000/agents/1bc6b65e-233c-453c-
a916-8763e03e27bd/availability
Success! Response:
{
  "days": [
    "Tuesday",
    "Thursday"
  ],
  "shift": "evening"
}

=== Testing Booking Service ===
Testing: Create a new booking
URL: POST http://localhost:8001/bookings
Payload: {
    "agent_id": "1bc6b65e-233c-453c-a916-8763e03e27bd",
    "customer_name": "Alice Johnson",
    "service_type": "Flight",
    "price": 350.00
}
Success! Response:
{
  "booking_id": "dc512d44-0aee-43b6-8081-f338bf40a2e2",
  "commission_amount": 35.0
}
Created booking with ID: dc512d44-0aee-43b6-8081-f338bf40a2e2

Testing: Get agent bookings
URL: GET http://localhost:8001/agents/1bc6b65e-233c-453c-
a916-8763e03e27bd/bookings
Success! Response:
[
  {
```

```
      "agent_id": "1bc6b65e-233c-453c-a916-8763e03e27bd",
      "customer_name": "Alice Johnson",
      "service_type": "Flight",
      "price": 350.0
  }
]

Testing: Get agent commission
URL: GET http://localhost:8001/agents/1bc6b65e-233c-453c-
a916-8763e03e27bd/commission
Success! Response:
[
  {
      "agent_id": "1bc6b65e-233c-453c-a916-8763e03e27bd",
      "booking_id": "dc512d44-0aee-43b6-8081-f338bf40a2e2",
      "commission_percentage": 10.0,
      "commission_amount": 35.0
  }
]

=== Testing Sales Service ===
Testing: Record a sale
URL: POST http://localhost:8002/sales/record
Payload: {
      "agent_id": "1bc6b65e-233c-453c-a916-8763e03e27bd",
      "price": 450.00
}
Success! Response:
{
  "message": "Sale recorded"
}

Testing: Get sales by agent
URL: GET http://localhost:8002/sales/by-agent/
1bc6b65e-233c-453c-a916-8763e03e27bd
Success! Response:
[
  {
      "agent_id": "1bc6b65e-233c-453c-a916-8763e03e27bd",
      "sales": 450.0
  }
]

Testing: Get sales trends
```

```
URL: GET http://localhost:8002/sales/trends
Success! Response:
{
  "trend": "positive",
  "growth_percentage": 10
}

=== Testing Invoicing Service ===
Testing: Generate an invoice
URL: POST http://localhost:8003/invoice
Payload: {
    "agent_id": "1bc6b65e-233c-453c-a916-8763e03e27bd",
    "customer_name": "Bob Wilson",
    "amount": 550.00
}
Success! Response:
{
  "invoice_id": "f17e7bd4-ccae-4964-8e9c-4e674cca322e",
  "amount": 550.0
}

Testing: Process agent payout
URL: POST http://localhost:8003/payout
Payload: {
    "agent_id": "1bc6b65e-233c-453c-a916-8763e03e27bd",
    "payout_amount": 220.00
}
Success! Response:
{
  "payout_id": "b157a71e-1bfd-47d0-be00-0ca44adabac8",
  "amount": 220.0
}

Testing: Get agent payouts
URL: GET http://localhost:8003/agents/1bc6b65e-233c-453c-
a916-8763e03e27bd/payouts
Success! Response:
[
  {
    "agent_id": "1bc6b65e-233c-453c-a916-8763e03e27bd",
    "payout_amount": 220.0
  }
]
```

```
=== Testing Train Booking Service ===
Testing: List all trains
URL: GET http://localhost:8084/trains
Success! Response:
[
  {
    "train_number": "TRN001",
    "name": "Express 505",
    "source": "New York",
    "destination": "Washington DC",
    "departure_time": "08:30",
    "arrival_time": "12:00",
    "available_classes": [
      "First Class",
      "Business",
      "Economy"
    ],
    "base_price": {
      "First Class": 150.0,
      "Business": 100.0,
      "Economy": 50.0
    }
  },
  {
    "train_number": "TRN002",
    "name": "Coastal Link",
    "source": "Boston",
    "destination": "New York",
    "departure_time": "10:15",
    "arrival_time": "13:45",
    "available_classes": [
      "First Class",
      "Economy"
    ],
    "base_price": {
      "First Class": 120.0,
      "Economy": 45.0
    }
  },
  {
    "train_number": "TRN003",
    "name": "Western Eagle",
    "source": "Chicago",
    "destination": "Denver",
```

```
    "departure_time": "14:20",
    "arrival_time": "22:35",
    "available_classes": [
      "First Class",
      "Business",
      "Economy"
    ],
    "base_price": {
      "First Class": 280.0,
      "Business": 180.0,
      "Economy": 120.0
    }
  }
]

Testing: Get specific train details
URL: GET http://localhost:8084/trains/TRN001
Success! Response:
{
  "train_number": "TRN001",
  "name": "Express 505",
  "source": "New York",
  "destination": "Washington DC",
  "departure_time": "08:30",
  "arrival_time": "12:00",
  "available_classes": [
    "First Class",
    "Business",
    "Economy"
  ],
  "base_price": {
    "First Class": 150.0,
    "Business": 100.0,
    "Economy": 50.0
  }
}

Testing: Create a new train booking
URL: POST http://localhost:8084/train-bookings
Payload: {
    "agent_id": "1bc6b65e-233c-453c-a916-8763e03e27bd",
    "train_number": "TRN001",
    "travel_date": "2025-05-15",
    "passenger_count": 2,
```

```json
        "train_class": "First Class",
        "passengers": [
            {
                "name": "Jane Smith",
                "age": 35,
                "id_type": "Passport",
                "id_number": "AB123456"
            },
            {
                "name": "David Smith",
                "age": 40,
                "id_type": "Passport",
                "id_number": "CD789012"
            }
        ],
        "special_requests": "Window seats preferred"
}
```

Success! Response:

```json
{
  "booking_id": "91feb6bb-3af9-4b31-9971-fe458fbe0463",
  "agent_id": "1bc6b65e-233c-453c-a916-8763e03e27bd",
  "train_number": "TRN001",
  "train_name": "Express 505",
  "source": "New York",
  "destination": "Washington DC",
  "travel_date": "2025-05-15",
  "departure_time": "08:30",
  "arrival_time": "12:00",
  "train_class": "First Class",
  "price_per_passenger": 150.0,
  "total_price": 300.0,
  "passenger_count": 2,
  "passengers": [
    {
      "name": "Jane Smith",
      "age": 35,
      "id_type": "Passport",
      "id_number": "AB123456"
    },
    {
      "name": "David Smith",
      "age": 40,
      "id_type": "Passport",
      "id_number": "CD789012"
```

```
    }
  ],
  "special_requests": "Window seats preferred",
  "booking_date": "2025-04-21",
  "status": "Confirmed"
}
Created train booking with ID: 91feb6bb-3af9-4b31-9971-
fe458fbe0463

Testing: List all train bookings
URL: GET http://localhost:8084/train-bookings
Success! Response:
[
  {
    "booking_id": "91feb6bb-3af9-4b31-9971-fe458fbe0463",
    "agent_id": "1bc6b65e-233c-453c-a916-8763e03e27bd",
    "train_number": "TRN001",
    "train_name": "Express 505",
    "source": "New York",
    "destination": "Washington DC",
    "travel_date": "2025-05-15",
    "departure_time": "08:30",
    "arrival_time": "12:00",
    "train_class": "First Class",
    "price_per_passenger": 150.0,
    "total_price": 300.0,
    "passenger_count": 2,
    "passengers": [
      {
        "name": "Jane Smith",
        "age": 35,
        "id_type": "Passport",
        "id_number": "AB123456"
      },
      {
        "name": "David Smith",
        "age": 40,
        "id_type": "Passport",
        "id_number": "CD789012"
      }
    ],
    "special_requests": "Window seats preferred",
    "booking_date": "2025-04-21",
    "status": "Confirmed"
```

```
    }
]

Testing: Get specific train booking details
URL: GET http://localhost:8084/train-bookings/
91feb6bb-3af9-4b31-9971-fe458fbe0463
Success! Response:
{
  "booking_id": "91feb6bb-3af9-4b31-9971-fe458fbe0463",
  "agent_id": "1bc6b65e-233c-453c-a916-8763e03e27bd",
  "train_number": "TRN001",
  "train_name": "Express 505",
  "source": "New York",
  "destination": "Washington DC",
  "travel_date": "2025-05-15",
  "departure_time": "08:30",
  "arrival_time": "12:00",
  "train_class": "First Class",
  "price_per_passenger": 150.0,
  "total_price": 300.0,
  "passenger_count": 2,
  "passengers": [
    {
      "name": "Jane Smith",
      "age": 35,
      "id_type": "Passport",
      "id_number": "AB123456"
    },
    {
      "name": "David Smith",
      "age": 40,
      "id_type": "Passport",
      "id_number": "CD789012"
    }
  ],
  "special_requests": "Window seats preferred",
  "booking_date": "2025-04-21",
  "status": "Confirmed"
}

Testing: Get agent's train bookings
URL: GET http://localhost:8084/agents/1bc6b65e-233c-453c-
a916-8763e03e27bd/train-bookings
Success! Response:
```

```
[
  {
    "booking_id": "91feb6bb-3af9-4b31-9971-fe458fbe0463",
    "agent_id": "1bc6b65e-233c-453c-a916-8763e03e27bd",
    "train_number": "TRN001",
    "train_name": "Express 505",
    "source": "New York",
    "destination": "Washington DC",
    "travel_date": "2025-05-15",
    "departure_time": "08:30",
    "arrival_time": "12:00",
    "train_class": "First Class",
    "price_per_passenger": 150.0,
    "total_price": 300.0,
    "passenger_count": 2,
    "passengers": [
      {
        "name": "Jane Smith",
        "age": 35,
        "id_type": "Passport",
        "id_number": "AB123456"
      },
      {
        "name": "David Smith",
        "age": 40,
        "id_type": "Passport",
        "id_number": "CD789012"
      }
    ],
    "special_requests": "Window seats preferred",
    "booking_date": "2025-04-21",
    "status": "Confirmed"
  }
]
```

Testing: Search train bookings by criteria
URL: GET http://localhost:8084/train-bookings/search?
agent_id=1bc6b65e-233c-453c-a916-8763e03e27bd
Success! Response:

```
{
  "detail": [
    {
      "type": "uuid_parsing",
      "loc": [
```

```
      "path",
      "booking_id"
    ],
    "msg": "Input should be a valid UUID, invalid
character: expected an optional prefix of `urn:uuid:`
followed by [0-9a-fA-F-], found `s` at 1",
    "input": "search",
    "ctx": {
      "error": "invalid character: expected an optional
prefix of `urn:uuid:` followed by [0-9a-fA-F-], found `s` at
1"
    }
  }
 ]
}

=== Testing Train Seat Status Service ===
Testing: Get train seat map
URL: GET http://localhost:8090/trains/TRN001/seats?
travel_date=2025-05-15
Success! Response:
{
  "train_number": "TRN001",
  "coaches": [
    {
      "coach_number": "FC1",
      "coach_class": "First Class",
      "rows": 5,
      "seats_per_row": 2,
      "layout": "1-1",
      "total_seats": 10,
      "available_seats": 10
    },
    {
      "coach_number": "FC2",
      "coach_class": "First Class",
      "rows": 5,
      "seats_per_row": 2,
      "layout": "1-1",
      "total_seats": 10,
      "available_seats": 10
    },
    {
      "coach_number": "BC3",
```

```
      "coach_class": "Business",
      "rows": 8,
      "seats_per_row": 3,
      "layout": "2-1",
      "total_seats": 24,
      "available_seats": 24
    },
    {
      "coach_number": "BC4",
      "coach_class": "Business",
      "rows": 8,
      "seats_per_row": 3,
      "layout": "2-1",
      "total_seats": 24,
      "available_seats": 24
    },
    {
      "coach_number": "BC5",
      "coach_class": "Business",
      "rows": 8,
      "seats_per_row": 3,
      "layout": "2-1",
      "total_seats": 24,
      "available_seats": 24
    },
    {
      "coach_number": "EC6",
      "coach_class": "Economy",
      "rows": 12,
      "seats_per_row": 4,
      "layout": "2-2",
      "total_seats": 48,
      "available_seats": 48
    },
    {
      "coach_number": "EC7",
      "coach_class": "Economy",
      "rows": 12,
      "seats_per_row": 4,
      "layout": "2-2",
      "total_seats": 48,
      "available_seats": 48
    },
    {
```

```
      "coach_number": "EC8",
      "coach_class": "Economy",
      "rows": 12,
      "seats_per_row": 4,
      "layout": "2-2",
      "total_seats": 48,
      "available_seats": 48
    },
    {
      "coach_number": "EC9",
      "coach_class": "Economy",
      "rows": 12,
      "seats_per_row": 4,
      "layout": "2-2",
      "total_seats": 48,
      "available_seats": 48
    },
    {
      "coach_number": "EC10",
      "coach_class": "Economy",
      "rows": 12,
      "seats_per_row": 4,
      "layout": "2-2",
      "total_seats": 48,
      "available_seats": 48
    }
  ],
  "total_seats": 332,
  "available_seats": 332
}
```

Testing: Get seats in First Class Coach FC1
URL: GET http://localhost:8090/trains/TRN001/coaches/FC1/
seats?travel_date=2025-05-15
Success! Response:

```
[
  {
    "seat_id": "1A",
    "coach_number": "FC1",
    "coach_class": "First Class",
    "row_number": 1,
    "seat_position": "A",
    "seat_type": "window",
    "status": "available",
```

```json
      "price_adjustment": 15.0,
      "features": [
        "extra_legroom",
        "power_outlet",
        "usb_port",
        "adjustable_headrest",
        "footrest",
        "personal_screen"
      ]
    },
    {
      "seat_id": "1B",
      "coach_number": "FC1",
      "coach_class": "First Class",
      "row_number": 1,
      "seat_position": "B",
      "seat_type": "window",
      "status": "available",
      "price_adjustment": 15.0,
      "features": [
        "extra_legroom",
        "power_outlet",
        "usb_port",
        "adjustable_headrest",
        "footrest",
        "personal_screen"
      ]
    },
    {
      "seat_id": "2A",
      "coach_number": "FC1",
      "coach_class": "First Class",
      "row_number": 2,
      "seat_position": "A",
      "seat_type": "window",
      "status": "available",
      "price_adjustment": 15.0,
      "features": [
        "power_outlet",
        "usb_port",
        "adjustable_headrest",
        "footrest",
        "personal_screen"
      ]
```

```json
    },
    {
      "seat_id": "2B",
      "coach_number": "FC1",
      "coach_class": "First Class",
      "row_number": 2,
      "seat_position": "B",
      "seat_type": "window",
      "status": "available",
      "price_adjustment": 15.0,
      "features": [
        "power_outlet",
        "usb_port",
        "adjustable_headrest",
        "footrest",
        "personal_screen"
      ]
    },
    {
      "seat_id": "3A",
      "coach_number": "FC1",
      "coach_class": "First Class",
      "row_number": 3,
      "seat_position": "A",
      "seat_type": "window",
      "status": "available",
      "price_adjustment": 15.0,
      "features": [
        "power_outlet",
        "usb_port",
        "adjustable_headrest",
        "footrest",
        "personal_screen"
      ]
    },
    {
      "seat_id": "3B",
      "coach_number": "FC1",
      "coach_class": "First Class",
      "row_number": 3,
      "seat_position": "B",
      "seat_type": "window",
      "status": "available",
      "price_adjustment": 15.0,
```

```json
      "features": [
        "power_outlet",
        "usb_port",
        "adjustable_headrest",
        "footrest",
        "personal_screen"
      ]
    },
    {
      "seat_id": "4A",
      "coach_number": "FC1",
      "coach_class": "First Class",
      "row_number": 4,
      "seat_position": "A",
      "seat_type": "window",
      "status": "available",
      "price_adjustment": 15.0,
      "features": [
        "power_outlet",
        "usb_port",
        "adjustable_headrest",
        "footrest",
        "personal_screen"
      ]
    },
    {
      "seat_id": "4B",
      "coach_number": "FC1",
      "coach_class": "First Class",
      "row_number": 4,
      "seat_position": "B",
      "seat_type": "window",
      "status": "available",
      "price_adjustment": 15.0,
      "features": [
        "power_outlet",
        "usb_port",
        "adjustable_headrest",
        "footrest",
        "personal_screen"
      ]
    },
    {
      "seat_id": "5A",
```

          "coach_number": "FC1",
          "coach_class": "First Class",
          "row_number": 5,
          "seat_position": "A",
          "seat_type": "window",
          "status": "available",
          "price_adjustment": 15.0,
          "features": [
            "power_outlet",
            "usb_port",
            "adjustable_headrest",
            "footrest",
            "personal_screen"
          ]
        },
        {
          "seat_id": "5B",
          "coach_number": "FC1",
          "coach_class": "First Class",
          "row_number": 5,
          "seat_position": "B",
          "seat_type": "window",
          "status": "available",
          "price_adjustment": 15.0,
          "features": [
            "power_outlet",
            "usb_port",
            "adjustable_headrest",
            "footrest",
            "personal_screen"
          ]
        }
    ]

Testing: Get First Class coach layout
URL: GET http://localhost:8090/trains/TRN001/coach-layout/
First%20Class
Success! Response:
{
    "coach_class": "First Class",
    "rows": 5,
    "seats_per_row": 2,
    "layout_pattern": "1-1",
    "visual_layout": [

```json
  {
    "row": 1,
    "seats": [
      [
        "1A"
      ],
      [
        "1B"
      ]
    ]
  },
  {
    "row": 2,
    "seats": [
      [
        "2A"
      ],
      [
        "2B"
      ]
    ]
  },
  {
    "row": 3,
    "seats": [
      [
        "3A"
      ],
      [
        "3B"
      ]
    ]
  },
  {
    "row": 4,
    "seats": [
      [
        "4A"
      ],
      [
        "4B"
      ]
    ]
  },
```

```
      {
        "row": 5,
        "seats": [
          [
            "5A"
          ],
          [
            "5B"
          ]
        ]
      }
    ]
}
```

Testing: Get Business Class coach layout
URL: GET http://localhost:8090/trains/TRN001/coach-layout/
Business
Success! Response:

```
{
  "coach_class": "Business",
  "rows": 8,
  "seats_per_row": 3,
  "layout_pattern": "2-1",
  "visual_layout": [
    {
      "row": 1,
      "seats": [
        [
          "1A",
          "1B"
        ],
        [
          "1C"
        ]
      ]
    },
    {
      "row": 2,
      "seats": [
        [
          "2A",
          "2B"
        ],
        [
```

```
              "2C"
            ]
          ]
        },
        {
          "row": 3,
          "seats": [
            [
              "3A",
              "3B"
            ],
            [
              "3C"
            ]
          ]
        },
        {
          "row": 4,
          "seats": [
            [
              "4A",
              "4B"
            ],
            [
              "4C"
            ]
          ]
        },
        {
          "row": 5,
          "seats": [
            [
              "5A",
              "5B"
            ],
            [
              "5C"
            ]
          ]
        },
        {
          "row": 6,
          "seats": [
            [
```

```json
          "6A",
          "6B"
        ],
        [
          "6C"
        ]
      ]
    },
    {
      "row": 7,
      "seats": [
        [
          "7A",
          "7B"
        ],
        [
          "7C"
        ]
      ]
    },
    {
      "row": 8,
      "seats": [
        [
          "8A",
          "8B"
        ],
        [
          "8C"
        ]
      ]
    }
  ]
}
```

Testing: Get Economy Class coach layout
URL: GET http://localhost:8090/trains/TRN001/coach-layout/
Economy
Success! Response:

```json
{
  "coach_class": "Economy",
  "rows": 12,
  "seats_per_row": 4,
  "layout_pattern": "2-2",
```

```
    "visual_layout": [
      {
        "row": 1,
        "seats": [
          [
            "1A",
            "1B"
          ],
          [
            "1C",
            "1D"
          ]
        ]
      },
      {
        "row": 2,
        "seats": [
          [
            "2A",
            "2B"
          ],
          [
            "2C",
            "2D"
          ]
        ]
      },
      {
        "row": 3,
        "seats": [
          [
            "3A",
            "3B"
          ],
          [
            "3C",
            "3D"
          ]
        ]
      },
      {
        "row": 4,
        "seats": [
          [
```

```
        "4A",
        "4B"
      ],
      [
        "4C",
        "4D"
      ]
    ]
  },
  {
    "row": 5,
    "seats": [
      [
        "5A",
        "5B"
      ],
      [
        "5C",
        "5D"
      ]
    ]
  },
  {
    "row": 6,
    "seats": [
      [
        "6A",
        "6B"
      ],
      [
        "6C",
        "6D"
      ]
    ]
  },
  {
    "row": 7,
    "seats": [
      [
        "7A",
        "7B"
      ],
      [
        "7C",
```

```
          "7D"
        ]
      ]
    },
    {
      "row": 8,
      "seats": [
        [
          "8A",
          "8B"
        ],
        [
          "8C",
          "8D"
        ]
      ]
    },
    {
      "row": 9,
      "seats": [
        [
          "9A",
          "9B"
        ],
        [
          "9C",
          "9D"
        ]
      ]
    },
    {
      "row": 10,
      "seats": [
        [
          "10A",
          "10B"
        ],
        [
          "10C",
          "10D"
        ]
      ]
    },
    {
```

```
        "row": 11,
        "seats": [
          [
            "11A",
            "11B"
          ],
          [
            "11C",
            "11D"
          ]
        ]
      },
      {
        "row": 12,
        "seats": [
          [
            "12A",
            "12B"
          ],
          [
            "12C",
            "12D"
          ]
        ]
      }
    ]
}
```

Testing: Get seat availability summary for train
URL: GET http://localhost:8090/trains/TRN001/availability?
travel_date=2025-05-15
Success! Response:

```
{
  "train_number": "TRN001",
  "travel_date": "2025-05-15",
  "total_seats": 332,
  "available_seats": 332,
  "availability_by_class": {
    "First Class": {
      "total_coaches": 2,
      "total_seats": 20,
      "available_seats": 20,
      "coaches": {
        "FC1": {
```

```json
          "total_seats": 10,
          "available_seats": 10
        },
        "FC2": {
          "total_seats": 10,
          "available_seats": 10
        }
      }
    },
    "Business": {
      "total_coaches": 3,
      "total_seats": 72,
      "available_seats": 72,
      "coaches": {
        "BC3": {
          "total_seats": 24,
          "available_seats": 24
        },
        "BC4": {
          "total_seats": 24,
          "available_seats": 24
        },
        "BC5": {
          "total_seats": 24,
          "available_seats": 24
        }
      }
    },
    "Economy": {
      "total_coaches": 5,
      "total_seats": 240,
      "available_seats": 240,
      "coaches": {
        "EC6": {
          "total_seats": 48,
          "available_seats": 48
        },
        "EC7": {
          "total_seats": 48,
          "available_seats": 48
        },
        "EC8": {
          "total_seats": 48,
          "available_seats": 48
```

```
        },
        "EC9": {
          "total_seats": 48,
          "available_seats": 48
        },
        "EC10": {
          "total_seats": 48,
          "available_seats": 48
        }
      }
    }
  }
}

Testing: Get seat availability for First Class
URL: GET http://localhost:8090/trains/TRN001/availability?
travel_date=2025-05-15&coach_class=First%20Class
Success! Response:
{
  "train_number": "TRN001",
  "travel_date": "2025-05-15",
  "total_seats": 20,
  "available_seats": 20,
  "availability_by_class": {
    "First Class": {
      "total_coaches": 2,
      "total_seats": 20,
      "available_seats": 20,
      "coaches": {
        "FC1": {
          "total_seats": 10,
          "available_seats": 10
        },
        "FC2": {
          "total_seats": 10,
          "available_seats": 10
        }
      }
    }
  }
}

Testing: Reserve seats for a train booking
URL: POST http://localhost:8090/seat-reservations
```

```
Payload: {
    "booking_id": "91feb6bb-3af9-4b31-9971-fe458fbe0463",
    "train_number": "TRN001",
    "coach_class": "First Class",
    "passengers": 2,
    "seat_preferences": ["window", "extra_legroom"],
    "travel_date": "2025-05-15"
}
Success! Response:
{
  "booking_id": "91feb6bb-3af9-4b31-9971-fe458fbe0463",
  "train_number": "TRN001",
  "seats": [
    "FC1-1A",
    "FC1-1B"
  ],
  "travel_date": "2025-05-15"
}
Reserved seats: FC1-1A
FC1-1B

Testing: Get seats reserved for booking
URL: GET http://localhost:8090/bookings/
91feb6bb-3af9-4b31-9971-fe458fbe0463/seats
Success! Response:
{
  "detail": "No seat reservations found for this booking"
}

Testing: Update status of a specific seat to maintenance
URL: PUT http://localhost:8090/trains/TRN001/seats/FC1-1A/
status?status=maintenance&travel_date=2025-05-15
Success! Response:
{
  "seat_id": "1A",
  "coach_number": "FC1",
  "coach_class": "First Class",
  "row_number": 1,
  "seat_position": "A",
  "seat_type": "window",
  "status": "maintenance",
  "price_adjustment": 15.0,
  "features": [
    "extra_legroom",
```

```
      "power_outlet",
      "usb_port",
      "adjustable_headrest",
      "footrest",
      "personal_screen"
    ]
}

Testing: Get updated seat availability
URL: GET http://localhost:8090/trains/TRN001/availability?
travel_date=2025-05-15
Success! Response:
{
  "train_number": "TRN001",
  "travel_date": "2025-05-15",
  "total_seats": 332,
  "available_seats": 330,
  "availability_by_class": {
    "First Class": {
      "total_coaches": 2,
      "total_seats": 20,
      "available_seats": 18,
      "coaches": {
        "FC1": {
          "total_seats": 10,
          "available_seats": 8
        },
        "FC2": {
          "total_seats": 10,
          "available_seats": 10
        }
      }
    },
    "Business": {
      "total_coaches": 3,
      "total_seats": 72,
      "available_seats": 72,
      "coaches": {
        "BC3": {
          "total_seats": 24,
          "available_seats": 24
        },
        "BC4": {
          "total_seats": 24,
```

```json
          "available_seats": 24
        },
        "BC5": {
          "total_seats": 24,
          "available_seats": 24
        }
      }
    },
    "Economy": {
      "total_coaches": 5,
      "total_seats": 240,
      "available_seats": 240,
      "coaches": {
        "EC6": {
          "total_seats": 48,
          "available_seats": 48
        },
        "EC7": {
          "total_seats": 48,
          "available_seats": 48
        },
        "EC8": {
          "total_seats": 48,
          "available_seats": 48
        },
        "EC9": {
          "total_seats": 48,
          "available_seats": 48
        },
        "EC10": {
          "total_seats": 48,
          "available_seats": 48
        }
      }
    }
  }
}
```

Testing: Cancel train booking
URL: PUT http://localhost:8084/train-bookings/
91feb6bb-3af9-4b31-9971-fe458fbe0463/cancel
Success! Response:

```json
{
  "message": "Booking cancelled successfully"
```

```
}

Testing: Cancel seat reservations
URL: PUT http://localhost:8090/bookings/
91feb6bb-3af9-4b31-9971-fe458fbe0463/seats/cancel
Success! Response:
{
  "detail": "No seat reservations found for this booking"
}

Testing: Search for cancelled train bookings
URL: GET http://localhost:8084/train-bookings/search?
agent_id=1bc6b65e-233c-453c-
a916-8763e03e27bd&status=Cancelled
Success! Response:
{
  "detail": [
    {
      "type": "uuid_parsing",
      "loc": [
        "path",
        "booking_id"
      ],
      "msg": "Input should be a valid UUID, invalid
character: expected an optional prefix of `urn:uuid:`
followed by [0-9a-fA-F-], found `s` at 1",
      "input": "search",
      "ctx": {
        "error": "invalid character: expected an optional
prefix of `urn:uuid:` followed by [0-9a-fA-F-], found `s` at
1"
      }
    }
  ]
}

Testing: Get seat availability after cancellation
URL: GET http://localhost:8090/trains/TRN001/availability?
travel_date=2025-05-15
Success! Response:
{
  "train_number": "TRN001",
  "travel_date": "2025-05-15",
  "total_seats": 332,
```

```json
    "available_seats": 330,
    "availability_by_class": {
      "First Class": {
        "total_coaches": 2,
        "total_seats": 20,
        "available_seats": 18,
        "coaches": {
          "FC1": {
            "total_seats": 10,
            "available_seats": 8
          },
          "FC2": {
            "total_seats": 10,
            "available_seats": 10
          }
        }
      },
      "Business": {
        "total_coaches": 3,
        "total_seats": 72,
        "available_seats": 72,
        "coaches": {
          "BC3": {
            "total_seats": 24,
            "available_seats": 24
          },
          "BC4": {
            "total_seats": 24,
            "available_seats": 24
          },
          "BC5": {
            "total_seats": 24,
            "available_seats": 24
          }
        }
      },
      "Economy": {
        "total_coaches": 5,
        "total_seats": 240,
        "available_seats": 240,
        "coaches": {
          "EC6": {
            "total_seats": 48,
            "available_seats": 48
```

```
        },
        "EC7": {
          "total_seats": 48,
          "available_seats": 48
        },
        "EC8": {
          "total_seats": 48,
          "available_seats": 48
        },
        "EC9": {
          "total_seats": 48,
          "available_seats": 48
        },
        "EC10": {
          "total_seats": 48,
          "available_seats": 48
        }
      }
    }
  }
}

=== Test Complete ===
All endpoints have been tested.

Generating PDF report...
```