

PROJECT DEVELOPMENT PHASE

MODEL PERFORMANCE TEST

DATE	21 October 2023
TEAM NM ID	B910454B661E3859B93483FA1A091BCD
PROJECT NAME	Analyzing The Performance & Efficiency Of The Radisson Hotels Using Data Visualization Techniques Using IBM COGNOS
MAXIMUM MARKS	10

Model Performance Testing:

Project team shall fill the following information in model performance testing template:

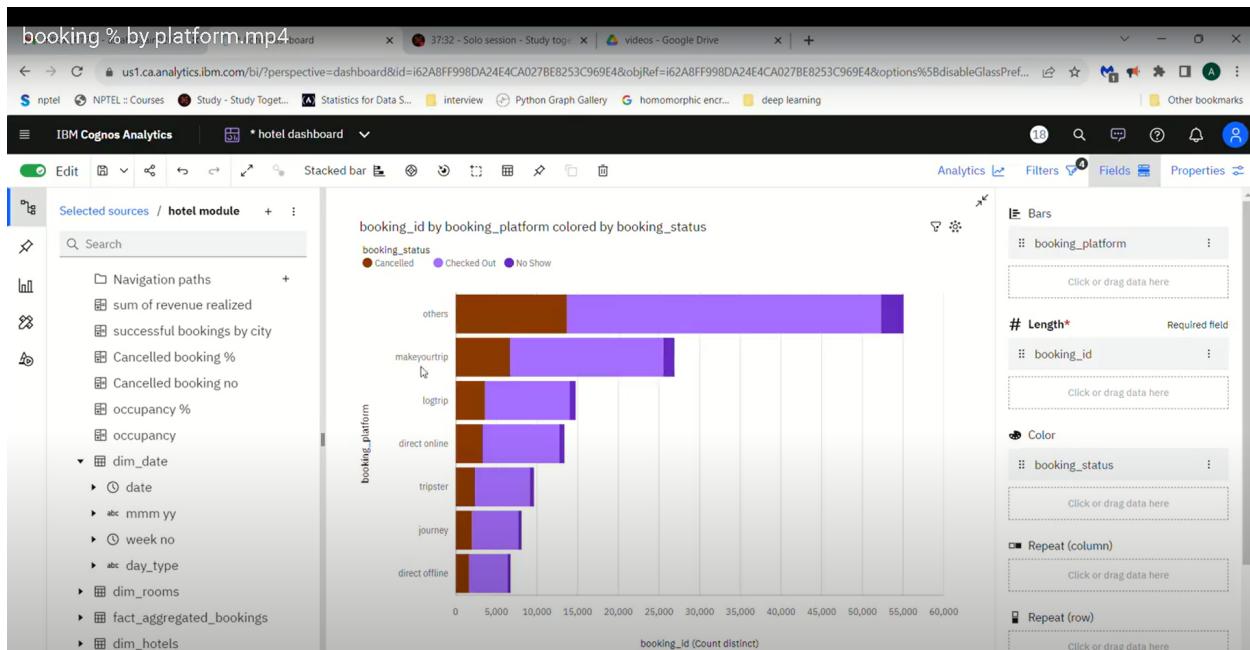
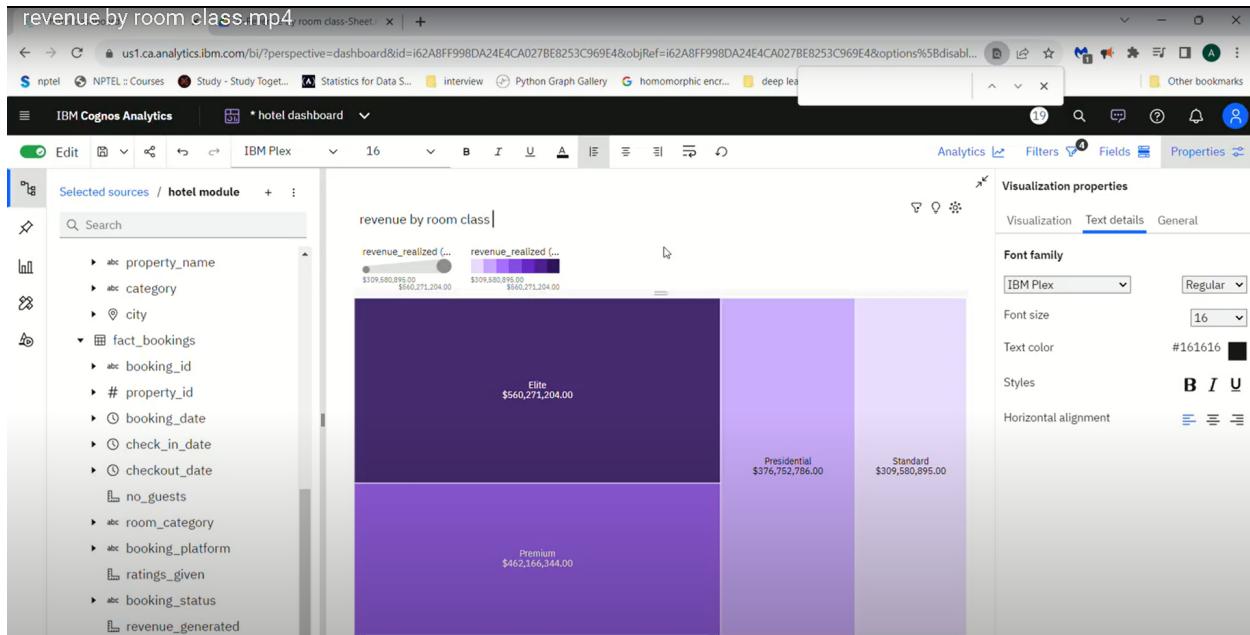
Performance testing is a non-functional software testing technique that determines how the stability, speed, scalability, and responsiveness of an application holds up under a given workload. It is a software testing process used for testing the speed, response time, stability, reliability, scalability, and resource usage of a software application under a particular workload.

1. Dashboard design

- A dashboard is a user interface that provides a consolidated and visual representation of data and Visualizations are an essential component of dashboards.
- In this project we have created “12 different types of visualizations”.

The screenshot shows the IBM Cognos Analytics interface. On the left, the 'Selected sources / hotel module' pane lists various data items like property_name, category, fact_bookings, etc. The main area displays a stacked bar chart titled 'occupancy by property_name colored by city'. The chart compares occupancy across seven properties (Radisson Bay, Radisson Blu, Radisson City, Radisson Exotica, Radisson Grands, Radisson Palace, Radisson Seasons) for four cities (Bangalore, Delhi, Hyderabad, Mumbai). The x-axis represents occupancy (Sum) from 0 to 1,000. The legend indicates the color mapping for each city: Bangalore (purple), Delhi (blue), Hyderabad (green), and Mumbai (red). The chart shows varying occupancy levels across the properties, with Radisson Exotica having the highest total occupancy.

Property Name	Bangalore (%)	Delhi (%)	Hyderabad (%)	Mumbai (%)	Total Occupancy
Radisson Bay	19.5%	17.6%	18.9%	9.8%	560
Radisson Blu	15.7%	21.4%	18.7%	14.7%	600
Radisson City	19.4%	17.4%	19%	11.4%	600
Radisson Exotica	16.1%	12.8%	28.5%	0%	600
Radisson Grands	13.3%	22%	15.3%	11.6%	600
Radisson Palace	15.9%	21.6%	15.2%	14.2%	600
Radisson Seasons	0%	0%	9.6%	0%	200



property key metrics.mp4

Selected sources / hotel module

Search

Navigation paths

- sum of revenue realized
- successful bookings by city
- Cancelled booking %
- Cancelled booking no
- occupancy %
- occupancy
- dim_date
 - date
 - mm yy
 - week no
 - day_type
- dim_rooms
- fact_aggregated_bookings
- property_id

property_id, occupancy %, capacity, successful_bookings, property_name, Cancelled booking % and revenue_realized

property_name	property_id	revenue_realized	successful_bookings	capacity	occupancy %	Cancelled booking %
Radisson Bay	16562	\$260,051,178...	4,820	9,016	53.46%	24.84%
	17562	\$260,051,178...	3,424	7,636	44.84%	24.84%
	18562	\$260,051,178...	7,333	11,132	65.87%	24.84%
	19562	\$260,051,178...	5,812	8,832	65.81%	24.84%
Summary		\$1,040,204,7...	21,389	36,616	229.98%	24.84%
Radisson Blu	16561	\$260,855,522...	4,418	6,716	65.78%	24.65%
	17561	\$260,855,522...	5,183	7,820	66.28%	24.65%
	18561	\$260,855,522...	6,458	9,844	65.60%	24.65%
	19561	\$260,855,522...	5,736	10,764	53.29%	24.65%
Summary		\$1,043,422,0...	21,795	35,144	250.95%	24.65%
Radisson City	16560	\$285,811,939...	4,693	8,740	53.70%	24.92%
	17560	\$285,811,939...	6,013	11,316	53.14%	24.92%
	18560	\$285,811,939...	6,638	10,028	66.19%	24.92%

Visualization properties

Color

Summary fill color

Conditional color

Available data

- revenue_realized
- successful_bookings
- capacity
- occupancy %
- Cancelled booking %

Responsive

Label location: Inside

Donut hole radius: 0%

Pie start angle: 0

Pie end angle: 360

Show value labels:

Show inner label:

Display %:

Item label format: Item and percentage

Font family: Automatic

Font size: 26

Inner label title:

Category	Percentage
Business	38.4%
Luxury	61.6%

Tableau - hotel radisson analysis

10-Successful Bookings by city-Sheet.mp4

The Tableau interface shows a map of India with data points representing successful bookings. A tooltip for Mumbai displays the value <SUM(Successful Bookings)> as 43,455. The legend indicates four cities: Bangalore (purple), Delhi (green), Hyderabad (red), and Mumbai (dark blue).

Data **Analytics**

Tables

- * dim_date+ (radisson)
- Search
- dim_hotels
- dim_rooms
- fact_aggregated_bookings
- fact_bookings

Pages

Filters

Marks

Longitude (generate..)

Latitude (generated..)

Successful Bookings By City

City

Label

Text: <SUM(Successful Bookings)>

Font: Tableau Book, 9pt, ...

Alignment: Automatic

Marks to Label: All

Options: Allow labels to overlap other marks

City

City

City

City

24,231 Delhi

43,455 Mumbai

34,888 Hyderabad

32,16 Bangalore

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total revenue.mp4

The IBM Cognos Analytics dashboard features a large value card displaying \$134,590.00 for 'revenue_realized'. A context menu is open over the card, showing options like Auto (Sum), Average, Sum, Minimum, Maximum, Count, and Count distinct.

IBMid - Sign in or create an IBM

hotel dashboard

Analytics **Filters** **Fields** **Properties**

Selected sources / hotel module

revenue_realized

\$134,590.00

revenue_realized

Value*

Required field

revenue_realized

Average

Sum

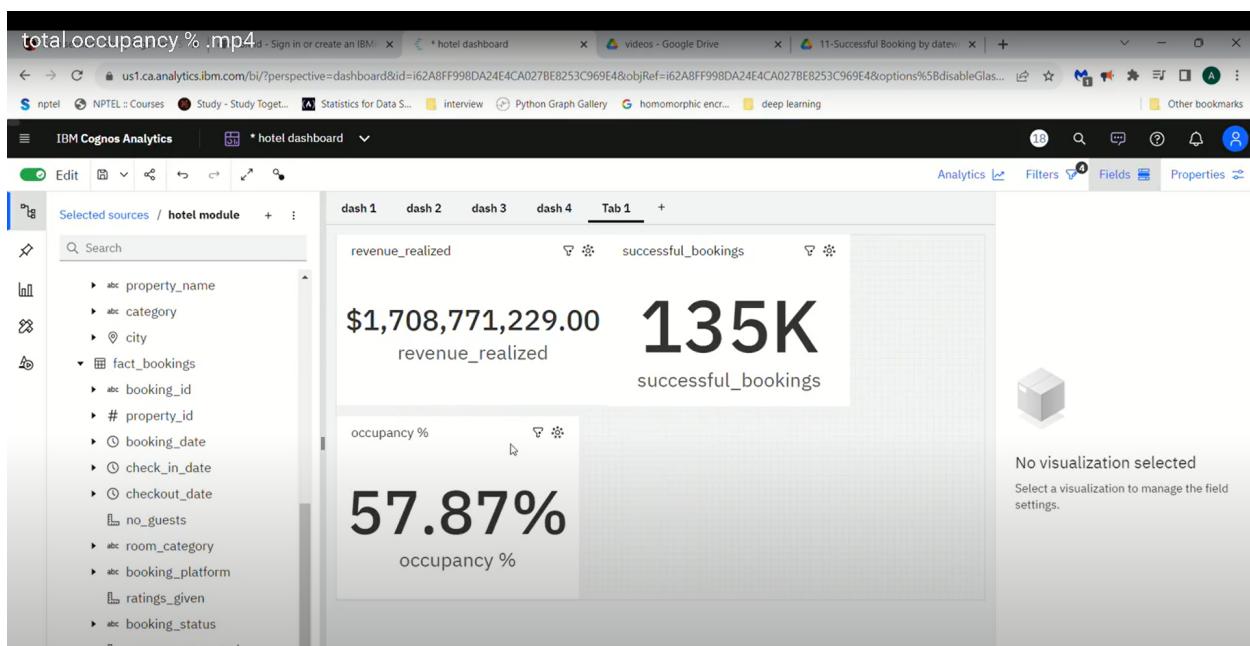
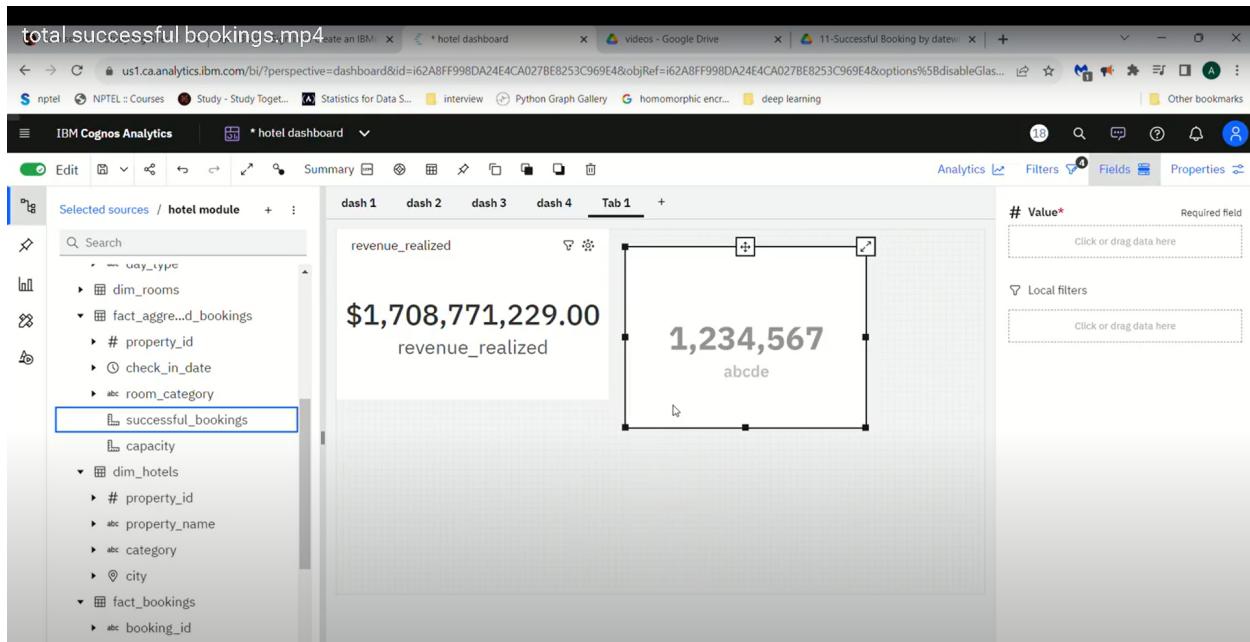
Minimum

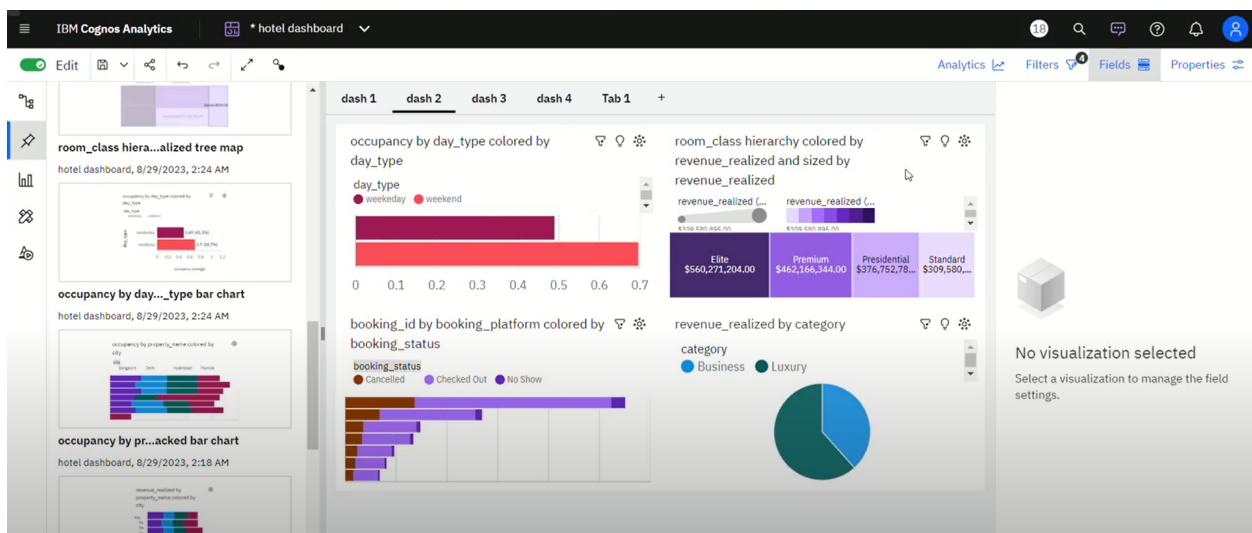
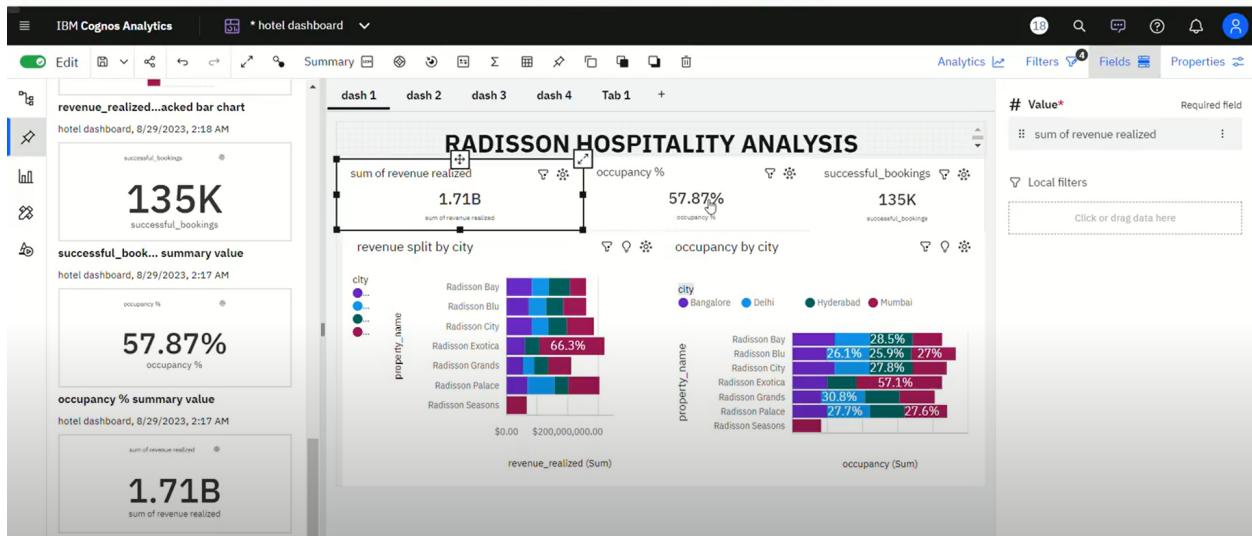
Maximum

Count

Count distinct

Auto (Sum)





city and successful_bookings by city for city

city regions map

occupancy %, capacity, successful_bookings, property_name, property_id, Cancelled booking % and revenue_realized

property_name	property_id	revenue_realized	successful_bookings	capacity	occupancy %	Cancelled booking %	
16562	\$56,437,570.00	4,820	9,016	53%	25.27%		
17562	\$51,914,158.00	3,424	7,636	45%	25.44%		
18562	\$69,255,910.00	7,333	11,132	66%	24.70%		
Radisson Bay	19562	\$82,443,540.00	5,812	8,832	66%	24.33%	
Summary	Summary	\$260,051,178...	21,389	36,616	23%	24.84%	
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	17561	\$73,918,312.00	5,183	7,820	66%	24.52%	
	18561	\$56,040,450.00	6,458	9,844	66%	24.17%	
	Radisson Blu	19561	\$72,963,360.00	5,736	10,764	53%	24.65%
	Summary	Summary	\$260,855,522...	21,795	35,144	25%	24.65%
	16560	\$54,932,178.00	4,693	8,740	54%	24.12%	

Columns* Required field

property_name

Includes: Radisson Bay, Radisson Blu, Radisson City, Radisson Exotica, Radisson Grand, Radisson Palace, Radisson Seasons

property_id

revenue_realized

successful_bookings

capacity

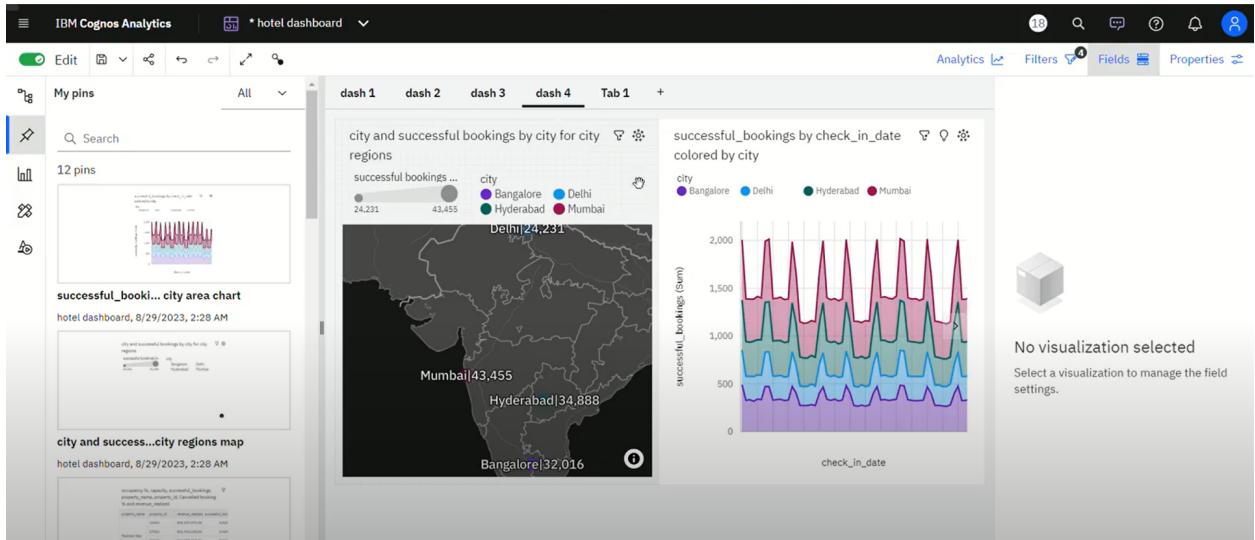
occupancy %

Cancelled booking %

Local filters

room_class

Includes: Elite, Premium, Presidential, Standard



2. Data Responsiveness

Data Responsiveness refers to the system's ability to quickly and efficiently handle and display data in response to user actions or requests. In the context of your project, "Analyzing the Performance & Efficiency of the Radisson Hotels Using Data Visualization Techniques Using IBM COGNOS," data responsiveness is crucial for providing users with a smooth and effective experience. Here's a brief detail about data responsiveness:

- **User Expectations:**

In a data visualization system like yours, users expect near-instantaneous responses when interacting with the dashboard. Whether they are filtering data, exploring visualizations, or making data selections, responsiveness is key to user satisfaction.

- **Real-Time Data:**

The system should be capable of handling real-time data updates. As new data becomes available, it should be reflected in the dashboard without delays, allowing hotel managers to make decisions based on the latest information.

- **Optimized Data Loading:**

Data loading processes, including retrieving data from the database, should be optimized for speed and efficiency. This involves minimizing data transfer times, reducing database query times, and avoiding overloading the system with unnecessary data.

- **Smooth Interactivity:**

Data visualization components on the dashboard, such as charts and graphs, should respond smoothly to user interactions. Users should be able to zoom, pan, and explore data without encountering lags or delays.

3.Amount Data to be Rendered (DB2 Metrics)

Amount Data to be Rendered (DB2 Metrics)Data to be Rendered (DB2 Metrics) refers to the quantity and scale of data that your data visualization system retrieves and displays from the DB2 database. The appropriate handling of this data is critical for the efficiency and performance of your project. Here's a brief overview:

- **Data Quantity:**

Determine the volume of data that the system needs to retrieve from the DB2 database. This includes the number of records, data points, and metrics required for analysis. It's essential to strike a balance between providing comprehensive insights and avoiding data overload.

- **Data Aggregation:**

Consider aggregating data at various levels to reduce the amount of data retrieved. Aggregating data can help maintain system performance, especially when dealing with large datasets.

- **Real-Time Data:**

If your project involves real-time data analysis, ensure that the system can efficiently handle the constant inflow of new data. This might include implementing data retention policies to manage the volume of historical data.

- **Data Fetch Mechanisms:**

Design efficient data fetching mechanisms that retrieve only the necessary data to populate the visualizations and reports. This reduces unnecessary database queries and minimizes resource consumption.

4. Utilization of Data Filters

Utilization of Data Filters is a crucial aspect of your data visualization project for analyzing the performance and efficiency of Radisson Hotels. Data filters allow users to refine and customize the data they view on the dashboard, making it a valuable tool for data exploration and analysis. Here's a brief explanation:

- **Customized Data Views:**

Data filters enable users, including hotel managers and data analysts, to customize the data displayed on the dashboard. By selecting specific filter criteria, users can focus on the information that is most relevant to their current objectives.

- **Key Filter Types:**

Data filters can include various types, such as date range filters, location-based filters, KPI (Key Performance Indicator) filters, and more. Each filter type serves a specific purpose in tailoring the data view.

- **Interactive User Experience:**

Filters should be designed for an interactive user experience. When users apply filters, the dashboard should respond promptly, updating the visualizations to reflect the filtered data.

5. Effective User Story No of Scene Added

The context of your data visualization project, "Effective User Story No of Scene Added" refers to the creation of user stories that effectively capture the scenarios and interactions that users will have with the data visualization system. Here's a brief overview:

- **User Stories:** User stories are a common agile project management technique used to define specific requirements from the perspective of an end user. These stories describe the functionality or features a user needs to accomplish a specific task or goal.

total occupancy %.mp4 - Sign in or create an IBM ID | * hotel dashboard | Videos - Google Drive | 11-Successful Booking by date... | +

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IBM Cognos Analytics * hotel dashboard Summary Analytics Filters Fields Properties

Selected sources / hotel module

Search

Navigation paths

- sum of revenue realized
- successful bookings by city
- Cancelled booking %
- Cancelled booking no
- occupancy %
- occupancy

dim_date

- date
- mm yy
- week no
- day type

dim_rooms

fact_aggregated_bookings

#_property_id

dash 1 dash 2 dash 3 dash 4 Tab 1

revenue_realized successful_bookings

\$1,708,771,229.00 135K

revenue_realized successful_bookings

occupancy %

57.87% occupancy %

Value* Required field

occupancy %

Local filters

Click or drag data here