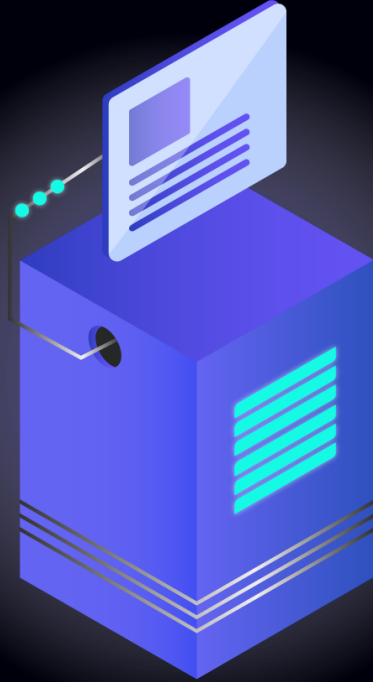




# Cloud Application Development

**Data Warehousing with IBM Cloud  
Db2 Warehouse**

IBM: CAD101

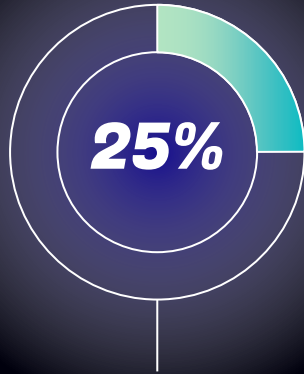


# ***INTRODUCTION***

Design Thinking for Data  
Warehousing with IBM Cloud Db2  
Warehouse:

Design thinking can be a valuable  
approach when planning and  
implementing a data  
warehousing solution using IBM  
Cloud Db2 Warehouse.

# DESIGNING A DATA WAREHOUSING SOLUTION:



***Analytics***

Data Exploration and  
Analysis



***Automation***

Automated Data  
Extraction



***Design***

Data Warehouse  
Architecture



**Warehouse on Cloud is a fully-managed, high-performance, elastic cloud data warehouse.**

## PROBLEM DEFINITION:

Design a data warehousing solution using IBM Cloud Db2 Warehouse to address the data management and analytics needs of a growing enterprise. The primary challenges to be addressed include



**KEY COMPONENTS OF THE PROBLEM  
STATEMENT:**

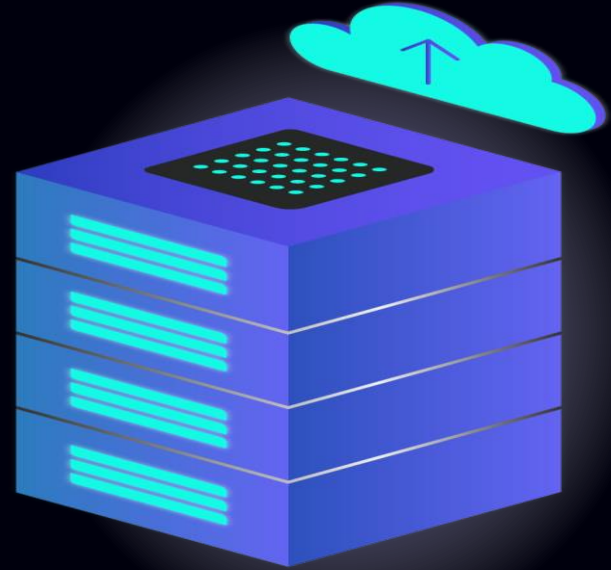
**Data Warehousing Solution**

**Data Integration**

**Data Transformation**

**Data Exploration and Analysis**

**Actionable Insights**



## HERE'S A DESIGN THINKING PROCESS TAILORED TO THIS SCENARIO:

### EMPATHIZE:

- Understand Stakeholder Needs: Begin by empathizing with key stakeholders, including data analysts, IT teams, and business users. Conduct interviews and surveys to identify their specific data warehousing requirements and pain points.
- Data Analysis: Analyze the existing data landscape within the organization, including data sources, formats, and quality. Understand the types of data that need to be stored and analyzed.

## **DEFINE:**

- Define Objectives: Clearly define the objectives of implementing Db2 Warehouse. What are the business goals and outcomes you aim to achieve through data warehousing
- Identify Challenges: Based on stakeholder feedback and data analysis, identify the main challenges, such as scalability issues, data integration complexities, or performance bottlenecks.

## **IDEATE:**

- Solution Brainstorming: Engage cross-functional teams in brainstorming sessions to generate ideas for addressing the identified challenges. Encourage creativity and consider various approaches.
- Explore Features: Investigate the features and capabilities of IBM Cloud Db2 Warehouse. Identify how these features can be leveraged to overcome challenges and meet objectives.



## PROTOTYPE:

- Proof of Concept (PoC): Develop a small-scale proof of concept to test the feasibility of using Db2 Warehouse. This can involve migrating a subset of data or running sample queries to assess performance.
- Data Model Design: Create a preliminary data model that outlines how data will be structured within Db2 Warehouse. Consider schema design and data transformation requirements.

## TEST:

- Validate with Stakeholders: Share the PoC and data model with stakeholders for validation. Gather feedback on the feasibility and alignment with business objectives.
- Performance Testing: Conduct performance testing to ensure that Db2 Warehouse can handle the anticipated data volume and query loads. Identify and address any performance bottlenecks.

## IMPLEMENT:

- Full-scale Implementation: Based on successful PoC results and stakeholder feedback, proceed with the full-scale implementation of Db2 Warehouse.
- Data Migration: Migrate existing data into Db2 Warehouse, ensuring data integrity and quality during the migration process.

## EVALUATE:

- Ongoing Monitoring: Implement monitoring and alerting systems to continuously track the health and performance of Db2 Warehouse. Set up regular data quality checks.
- User Feedback: Collect feedback from end-users, data analysts, and IT teams regarding the usability and effectiveness of the data warehousing solution.

## ITERATE:

- Continuous Improvement: Based on user feedback and monitoring data, iterate and make improvements to the data warehousing solution. Address any emerging challenges and evolving business needs.
  - Explore Advanced Analytics: As the data warehousing solution matures, consider incorporating advanced analytics and machine learning capabilities to derive more value from the data.
- By applying design thinking principles throughout the data warehousing journey with IBM Cloud Db2 Warehouse, you can ensure that the solution remains aligned with business goals, adapts to changing requirements, and ultimately delivers valuable insights to the organization. This iterative and user-centric approach fosters continuous improvement and innovation in data management and analytics.

## **ACTIONABLE INSIGHTS:**

Collaborate with key stakeholders and decision-makers to understand their information needs and the types of insights they require.

Establish a process for turning data into actionable recommendations or decisions. Develop a plan for data visualization and reporting to present insights in a clear and understandable manner.

