DATA WAREHOUSING WITH IBM CLOUD DB2 WAREHOUSE

PROJECT 3

AGENDA

- INTRODUCTION ABOUT PROJECT
- DEVELOPMENTS OF DATA WAREHOUSING INTO IBM CLOUD DB2 WAREHOUSE
- CODING
- SUMMARY

INTRODUCTION ABOUT PROJECT

- Data warehousing in the context of db2 development involves designing, implementing and maintaining a centralized repository for storing, managing, and analyzing large volumes of structured data
- Db2 is a relational database management system (RDBMS)that is commonly used for data warehousing

DEVELOPMENTS OF DATA WAREHOUSING INTO IBM CLOUD DB2 WAREHOUSE

Cloud integration:

Many organization are moving towards cloud-based data warehousing Solutions. IBM offers cloud-based services like db2 on cloud, which allows for more flexibility, scalability, and ease of management.

Advanced analytics integration:

Data warehousing systems are increasingly incorporating advanced analytics, including machine learning and AI, directly into the database engine. this integration allows for more powerful and real-time analysis of data.

Automation and AI:

Automation tools and AI-driven capabilities are being integrated into data warehousing solutions to streamline tasks such as data integration, quality checks, and performance optimization

Hybrid data warehousing:

As organizations manage data in various environment (on-premise, cloud, and hybrid),there's a growing trend towards hybrid data warehousing solutions that seamlessly integrate and manage data across these environment.

Data virtualisation:

Data virtualization technologies allow for a unified view of data across various sources without physically moving the data. This can improve agility and reduce the need for extensive ETL processes.

Security enhancement:

With the increasing importance of data security,and privacy,data warehousing solutions, including db2,are continually improving security features to protect sensitive information.

Coding

```
CREATE TABLE Sales (
        SaleID INT,
        ProductID INT,
        SaleDate DATE,
        Amount DECIMAL(10, 2));
CREATE TABLE Products (
        ProductID INT,
        ProductName VARCHAR(255),
        Category VARCHAR(50));
INSERT INTO Sales VALUES (1, 101, '2023-01-01', 500.00);
INSERT INTO Sales VALUES (2, 102, '2023-01-02', 700.00);
INSERT INTO Products VALUES (101, 'ProductA', 'Electronics');
INSERT INTO Products VALUES (102, 'ProductB', 'Clothing')
```

```
SELECT
s.SaleID,
p.ProductName,
s.AmountFROM   Sales s
JOIN Products p ON s.ProductID = p.ProductID
WHERE
s.SaleDate >= '2023-01-01';
CREATE TABLE SalesSummary (
SaleID INT,
ProductName VARCHAR(255),
Amount DECIMAL(10, 2));
INSERT INTO SalesSummary VALUES (1, 'ProductA', 500.00);
INSERT INTO SalesSummary VALUES (2, 'ProductB', 700.00);
```

```
SELECT
   ProductName,
   SUM(Amount) AS TotalSales
FROM
   SalesSummaryGROUP BY
   ProductName;
```

Summary

Developing a data warehousing solutions and multifaceted process.
The journey involves meticulous data modelling, efficient ETL processes,
and the integration of advanced analytics, all within the dynamic landscape
of cloud computing.

Thank you

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