CLOUD APPLICATION DEVELOPMENT

BIG DATA ANALYSIS WITH IBM CLOUD DATABASES

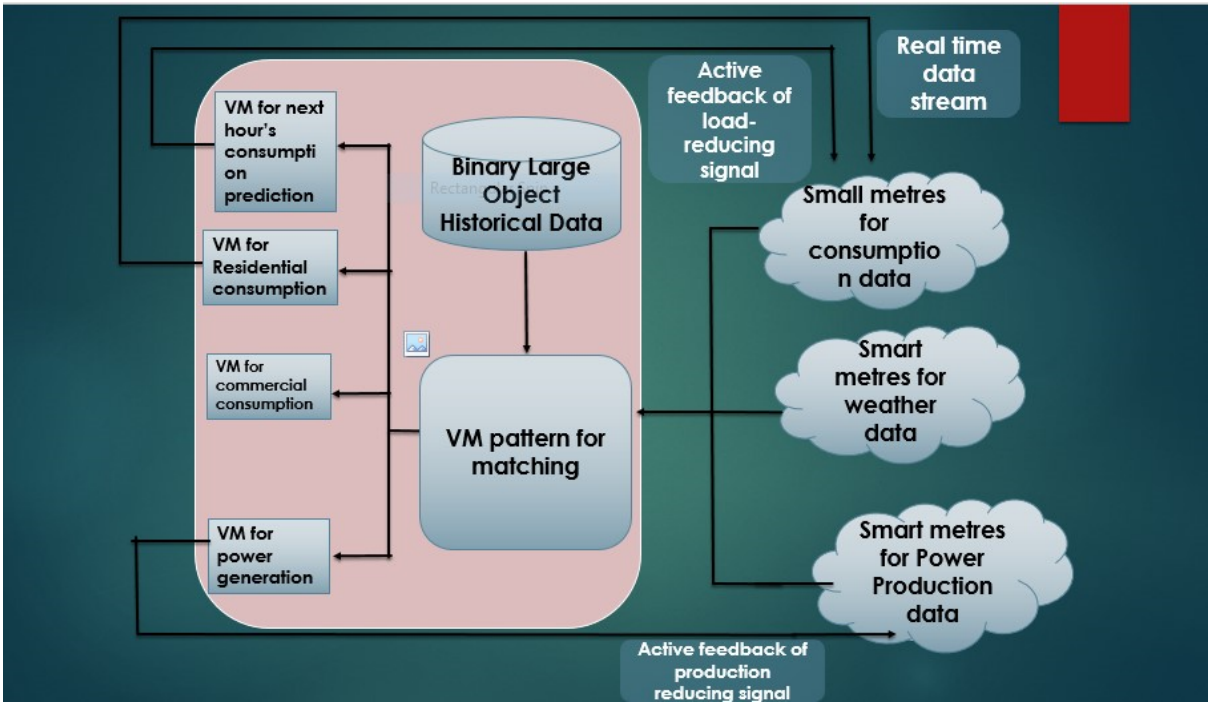
INTRODUCTION:

Cloud application development for big data analysis with IBM Cloud databases is the process of developing and deploying applications that can analyze large and complex datasets. IBM Cloud databases offer a variety of features and services that make them well-suited for big data analysis, including:

- Scalability: IBM Cloud databases can scale to meet the needs of any size dataset.
- Performance: IBM Cloud databases are designed to deliver high performance for even the most demanding workloads.
- Reliability: IBM Cloud databases are highly reliable and available.
- Security: IBM Cloud databases offer a variety of security features to protect your data.

IBM Cloud also offers a variety of tools and services that make it easy to develop and deploy cloud applications for big data analysis. For example, IBM Cloud Pak for Data as a Service provides a unified platform for data preparation, machine learning, and data visualization.

SYSTEM ARCHITECTURE:



A cloud application development for big data analysis with IBM Cloud databases system architecture typically consists of the following components:

- **Data storage:** This component is responsible for storing the big data that will be analyzed. IBM Cloud databases offer a variety of data storage options, including Cloudant, Db2, and Cloud SQL.
- **Data processing:** This component is responsible for processing the big data to extract insights. IBM Cloud databases offer a variety of data processing tools, including Apache Spark, Apache Hadoop, and IBM Watson Analytics.
- **Data visualization:** This component is responsible for visualizing the insights extracted from the big data. IBM Cloud databases offer a variety of data visualization tools, such as Cloud Pak for Data and Watson Explorer.

ALGORITHM:

The algorithms that are used for big data analysis will depend on the specific problems that you are trying to solve. However, some of the most common algorithms include:

- **Machine learning algorithms:** These algorithms are used to train models from data, which can then be used to make predictions or classifications on new data.
- **Statistical algorithms:** These algorithms are used to analyze data and identify patterns and trends.
- **Text mining algorithms:** These algorithms are used to extract meaning from text data.
- **Graph mining algorithms:** These algorithms are used to analyze graph data, which is data that is structured as a network of nodes and edges.

MODULES:

The modules that are involved in big data analysis will depend on the specific system architecture that you are using. However, some common modules include:

- **Data preparation:** This module is responsible for cleaning, transforming, and aggregating data before it is analyzed.
- **Feature engineering:** This module is responsible for creating new features from existing data.
- **Model training:** This module is responsible for training machine learning models.
- **Model evaluation:** This module is responsible for evaluating the performance of machine learning models.
- **Model deployment:** This module is responsible for deploying machine learning models to production.

FUTURE GOALS:

The future of cloud application development for big data analysis with IBM Cloud databases is very promising. IBM is continuously investing in new technologies and services to make it easier for organizations to develop and deploy big data analytics applications. Some of the future goals of IBM Cloud databases for big data analysis include:

- **Making it easier to develop and deploy machine learning models:** IBM is working on developing new tools and services that will make it easier for organizations to develop and deploy machine learning models to production.
- **Making it easier to analyze real-time data:** IBM is also working on developing new tools and services that will make it easier for organizations to analyze real-time data. This will enable organizations to make faster and more informed decisions.
- **Making it easier to share data and insights:** IBM is also working on developing new tools and services that will make it easier for organizations to share data and insights with each other. This will enable organizations to learn from each other and to develop new solutions to their problems.

CONCLUSION:

Cloud application development for big data analysis with IBM Cloud databases is a powerful tool for organizations of all sizes. By using IBM Cloud databases, organizations can gain valuable insights from their data and make better decisions. IBM is continuously investing in new technologies and services to make it easier for organizations to develop and deploy big data analytics applications.