



SOFE 4630U
Cloud Computing

Project Milestone
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Data Storage - KV + Relational

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Source and sink connectors

- Data is gathered from the system through a source connector whereas a sink connector transfers data to other systems from kafka topics.
- Databases, message brokers can all be used as sources.
- On the other hand, sink connectors deliver data to systems like Hadoop or databases.

The applications/advantages of using Kafka Connectors with data storage.

- Kafka connectors provide the ability to move data between kafka and other systems like databases and other applications.
- This can be done using sink and source connectors.
- They also provide solutions to incorporate and integrate other applications with kafka.

How do Kafka connectors maintain availability?

- Availability is maintained by the kafka connectors due to the several worker processes in the connectors.
- These take up the tasks and replace each other whenever a failure occurs

List the popular Kafka converters for values and the properties/advantages of each.

AvroConverter

- It takes up less space
- Higher rate of remote data transfer
- Converts Avro objects into JSON, XML etc.

ProtobufConverter

- Processing is very fast
- Interoperable between languages

StringConverter

- Supports string serialization

What's a Key-Value (KV) database?

- It is a non relational database which stores data in a key value format
- Each key is unique.

What are KV databases' advantages and disadvantages?

Advantages

- Not complex, extremely simple to use
- Very fast due to its simplicity

Disadvantages

- Not useful for complicated queries
- Not useful for applications that require updates often

List some popular KV databases.

- Redis
- Amazon DynamoDB
- Infinity DB

List some possible applications that can be implemented by using the uploaded dataset.

- The uploaded data set can have several applications. It can be utilized as a training dataset for an automated car or even a robot.