Lesson 4
Data Transactions Functions

Transaction

- A collection of operations that form a single logical unit of database.
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Transaction

- Consist of all operations executed between begin and end of transaction
- Operations such as connect, insertion, append, deletion or modification in a unit of database

Business Transactions

- Transactions related in some way to a business activity

Online Transactions Processing (OLTP)

- Processing as soon as data or events generate in real time
- Used when requirements are availability, speed, concurrency and recoverability in databases for the real time data or events
- Example: Transactions at the ATMs *online Transactions Processing (OLTP)*

Batch Transactions Processing

- Transactions processes in batches and in non interactive way
- When one set of transactions finish the results are stored and next batch is taken up

Batch Processing examples

- Credit card transactions. The final results at the end of the month used
- Chocolate purchase transactions. The final results of sell figures from ACVMs communicate on Internet at the end of an hour or day

Stream Transactions

- Processing on stream of data using specialized frameworks
- Examples: Log streams, event streams, twitter streams
- Query and transaction processing on streaming data needs specialized frameworks.

Real Tine Stream Transactions Frameworks

- Storm from Twitter
- S4 from Yahoo
- SPARK streaming
- HStreaming,
- Flume

Real time transaction processing

- Transactions processing at the same time as the data arrives from the data sources and Data Stores

Interactive Transactions Processing

- Transactions which involve continual exchange of information between the computer and a user
- Processing just the opposite of batch processing
- Examples: user interactions during e-shopping and e-banking.

Complex Event Processing (CEP)

- Application using capture of a combination of data, timing conditions and efficiently recognize the corresponding events over data streams

Complex Event Processing (CEP) Application Examples

- IOT event processing applications
- Stocks algorithmic based trading
- Location based services

Event stream processing/Complex Event Processing

- Processes tasks on receiving streams of event data identifies the meaningful pattern from the streams
- Detects relationships between multiple events

Event stream processing/Complex Event Processing

- Correlating the events data
- Detecting event hierarchies,
- Detecting aspects such as timing, causality, subscription membership, and
- Builds and manages the event-driven information systems

Summary

We learnt

- Event Processing
- Batch Processing
- Stream Processing
- Interactive Processing
- Event Stream Processing
- Complex Event Processing

End of Lesson 4 on
Data Transactions Functions