Module 07 - Parallel and Distributed Processing Storage Query and Transaction

Course Outcome

At the end of this course, students will:

- Understand basic database concepts, including the structure an operation of the relational and non-relational data model, design principles, E-R diagrams, E-R modeling, data warehousing, client/server, and internet database environments
- Apply the concept of a database transaction and related database facilities, including concurrency control, journaling, backup and recovery, and data object locking and protocols.
- Analyze advanced database topics such as distributed database systems, data modeling techniques and the data warehouse.
- Evaluate administration and security issues, and three enterprise database management systems widely used by organizations.
- Create a database management and security plan for a database project.

Core Concepts

- Tablespace, Datafiles, and Control Files
- Create tablespace Command
- Explain the Oracle SQL Loader
- Big Data and “3 Vs”
- Hadoop Distributed File System (HDFS)

Activities

- The Muddiest Point

- Concept Test
- Discussion Board
- Hands-On Practice
- Programming Exercise
- Knowledge Check
- Team Project Progress Submission

Required Reading

Negi, M. (2019). Fundamental of Database Management System. BPB Publications. (ISBN: 9789388176620)

Additional

Manning, A. (2015). Databases for small business: essentials of database management, data analysis, and staff training for entrepreneurs and professionals. Apress. (ISBN: 9781484202784)

Coronel, C., & Morris, S. (2019). Database Systems: Design, Implementation, & Management. Cengage Learning. (ISBN: 9780357687536)

- Chapter 9 (Database Systems Design)

Silberschatz, A., Korth, H. F., & Sudarshan, S. (2019). Database System Concepts (7th Ed.). McGraw-Hill. (ISBN: 9780078022159)

MP07: The Muddiest Point

Your quiz has been submitted successfully.

After reading the required reading, select only one key topic that you could not clearly understand or found confusing. If you understood everything and nothing needs further clarification, find one topic/concept that you found interesting.

Briefly describe the muddiest point or the most interesting point.

Your instructor will visit the collected topics and explain the muddiest topic(s) in class.

I really like document databases. I'm going to get a certification from MongoDB and AWS after this quarter. They are beyond fun to make.

This question has not been graded.

Which makes the best key for a NoSQL document database?

Question options:

name string

Universal Unique Identifier (UUID)

integer

Bit

KC07: Knowledge Check

Q1: Which of the following starting commands is used to take schema (user) backup?

1. expdat.dmp
2. expdp backup/
3. impdp backup/
4. sqlldr backup/

Q2: Which of the following is a definition of Scaling up in Big Data concept?

1. Refers to the workload that is spread out across a number of servers
2. Keeping a higher number of systems in order to migrate each system to a larger system
3. Is keeping the same number of systems, but migrating each system to a larger system

Q3: What is Veracity?

1. Is the ability to graphically present the data to make it understandable
2. Refers to the degree to which the data can be analyzed to provide meaningful information
3. Refers to the trustworthiness of the data
4. It is the data that can form the basis for analysis that has the potential to impact organizational behavior

Q4: Which one is the definition of the Sentiment analysis?

1. It is a method of text analysis that attempts to determine if a statement conveys a positive, negative, or neutral attitude about a topic
2. Refers to the changes in the meaning of the data based on context
3. Refers to the analysis of the data to produce actionable results
4. It is the coexistence of a variety of data storage and management technologies within an organization's infrastructure

Q5: Which is not a SQL keyword?

1. Allow
2. Grant

CT07: Concept Test

Part 1 (Due Wednesday)

Which one of the following describes the Homogeneous DDBMSs? Justify your answer.

a) It integrates multiple instances of the same DBMS over a network

b) It integrates different types of DBMSs over a network, but all support the same data model.

c) It supports different DBMSS, each one supporting a different data model, running under different computer systems.

d) It is similar to network file server except that all database processing is done at the server site

Part 2 (Due Sunday)

Respond to **one** of your classmates by critiquing his or her choice and justification. You are not allowed to select the same classmate if you chose the peer last week. You can convince your peer with your answer if the peer's answer is different from yours. If both have the same answer, you can discuss your justification with your peer to reinforce your answer.

How a Discussion Forum works: To post on the Discussion Forum, click the name of the forum then click on **Create Thread**. Type a subject "CT07- Your first name and last name" and a message. Then **Submit** your post.

Which one of the following describes the Homogeneous DDBMSs? Justify your answer.

a) It integrates multiple instances of the same DBMS over a network

I chose A as describing a Homogenous Distributed DBMS. First here's the definition of homogenous according to Merriam-Webster.

1: OF THE SAME OR A SIMILAR KIND OR NATURE

Secondly because A is verbatim the definition from p 563 in Database Systems (Coronel & Morris 2018, p. 563).

References

Coronel, C., & Morris, S. (2018). *Database systems: Design, implementation, & management* (13th ed.). Cengage Learning.

Merriam-Webster. (n.d.). Homogeneous. In *Merriam-Webster.com dictionary*. Retrieved August 17, 2022, from https://www.merriam-webster.com/dictionary/homogeneous

DB07: Discussion Board

Part 1 (Due Wednesday)

What is the difference between Distributed Processing and Distributed Databases?

Please share your idea with the group with a minimum of 250 words.

Part 2 (Due Sunday)

To extend the discussion, first review the posts of your classmates. Then choose at least two of your classmates' posts and respond with thoughtful and substantive contributions. Answer any questions from your instructor.

Rubrics