Structured Query Language

Duration : 1hr

Detailed Syllabus

- **4.1.Structured Query Language (SQL)**
  Introduction to SQL standards: SQL86, SQL89 and SQL92.

What Is SQL?
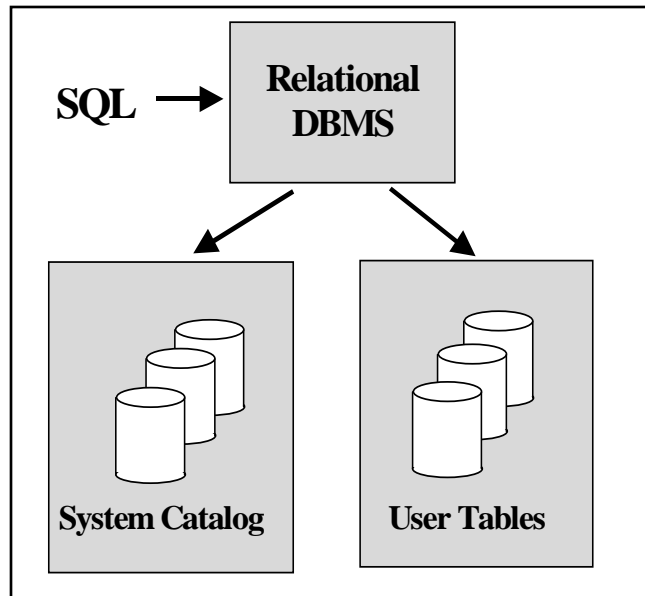
- A relational database language

    It is not a programming language but a comprehensive database sub-language language for controlling and interacting with a database management system.

- <u>NOT</u> a DBMS

- A powerful data manipulation language
  - It has capabilities for:
    - Insertion
    - Update
    - Deletion
    - Query
    - Protection

What Is SQL?

- Also designed for end users

- Non-procedural
  - We have to show 'what is needed' and not 'how', like in 'relational algebra'
  - Is similar more to 'relational calculus'

- Used in two ways:
  - Interactive
  - Programmatic: Dynamic / Embedded

Role of SQL

- A database programming language

- A database administration language

- A client/server language

- A distributed database language

Role of SQL

- It is vendor independent.
- If a user was dissatisfied with a particular DBMS he could switch products easily without much overhead, as both would follow the same language standard.
- Client applications relatively portable.
- Programmer skills are portable.
- Supports many different client processes -- end-users, applications, developers, etc.
- Database servers use SQL to request services from each other.

Standard versions
of SQL

- SQL-86 or SQL1
- SQL-92 or SQL2
- SQL-99 or SQL3

(will extend SQL with object oriented and other recent developments, such as XML)