

# Database management



**ASSIGN  
BUSTER**

SQL COM The basic requirement of an IT system is to employ technology for manipulating data (regarding people, events, items, etc This is done in a way that useful and meaningful information can be generated from the data. This tutorial uses the SQL technology and helps in providing the basic understanding of how the raw data can be modeled and made part of an organization. It further explains how simple data manipulation operations can assist in fast extraction of information and facilitation in effective management. The tutorial signifies that merely having data for a company is not enough. Data itself is just the raw material of knowledge. It is essential to know the techniques of data modeling and implementation in order to draw effective information. And this is possible only for a well modeled data. The tutorial presents real life scenarios that a company might face from the time of its initialization to the time when it has let go of certain high salary employees in situations of crises e. g. limited company finances. The tutorial teaches how big organizational level decisions can be reached upon by executing a simple query on the database and extracting the exact subset of information relevant to a particular decision e. g. generating a list of employees with a particular range of salaries. This example merely gives an introduction of how statistical analysis can be conducted on large scale databases. Having relevant information aids in making better decisions. And relevant information can only be acquired through effective data modeling and implementation. The tutorial covers all the three aspects that are considered while adding a data base functionality to a company; data modeling, data storing and data accessing. Although, the content of tutorial does not cover the three aspects in extensive detail, yet, it succeeds in giving an understandable introduction to all the three aspects, while

eliminating the boundaries and presenting them all as a unit. It teaches how certain parameters are considered before actually creating data storage for a company e. g. the entities and attributes forming tables and columns, the data types, the values that need to be unique, using primary keys, requirement of normalizing tables. And then it teaches how to add those designed data models into an actual database in form of tables. After that it teaches the actual commands used in carrying out the basic operations required by an organization in creating data records, displaying information stored in those records, updating records, deleting records, extracting conditional and analytical information and searching through records. The tutorial explains the basic structure of SQL queries that are most commonly used in any organization. SQL is the standardized database programming language, so the tutorial is very useful. The language of the tutorial is kept very simple and the method used for explaining is easily comprehensible for students with absolutely no previous skills. The tutorial progresses in a systematic way, to avoid any kind of confusions. Throughout the tutorial tips are provided regarding syntax of the SQL language. The tutorial gives test exercises after covering each type of query and also provides an online SQL interpreter and some space on the server for the student to create his/her own testing databases for testing his/her own queries on. This facility gives hands on experience with the SQL commands and confidence with data manipulation operations. The actual solutions for these test exercises are also provided with which a student can compare his/her solutions. So, all in all, the tutorial does a splendid job in giving a thorough introduction to how information can be extracted from raw data by modeling it, storing it and

accessing it intelligently through the use of SQL queries. It can be used by beginners and can also serve as a refresher course for the professionals.