

Oracle - (most popular RDBMS) (best slow development tool)

- makes programming very easy.
- product of Oracle Corporation 1977.
- Largest DB software company in the world.
- 63% of World's commercial database market.
(in client server environment)
- 86% of world commercial database market

Sybase: (going down) (SAP acquired Sybase)

MS SQL Server - good RDBMS

- competition for Oracle.
- very popular with .Net programmer.
- works only with windows O.S.
- occupied 16% of total database market.

character base

Ingress, Postgres, Unify :- only work with Linux & Unix O.S.

* DB server has to be a mainframe (supercomputer) :-

DB2 (good RDBMS from IBM) (pure University Wes)

CICS

PELON

IDMS

* single user RDBMS

client-server architecture not supported.

MS Access (RDBMS from Microsoft)

Paradox

Vatcom SQL

MySQL :- Launched by Swedish company in 1995.

(C and C++ source code)

- It's name is a combination of "my" the name of co-founder Michael Widenius' daughter and "SQL".

- Open source RDBMS. → when we purchase we get source code at it
- most widely used
- free RDBMS (42% of world free database market)
- part of the widely used LAMP open source web application software stack (and other "AMP" stacks)

L → Linux

A → Apache

M → MySQL

P → Perl / Python / PHP

- eg. Facebook, WhatsApp, Twitter, Flickr, YouTube

Software development Tool for MySQL:

MySQL command line client.

MySQL workbench.

MySQL connectors.

MySQL for excel.

MySQL Notifier.

MySQL Enterprise Backup.

MySQL Enterprise high availability.

MySQL Enterprise monitor.

SQL commands:

create, drop, Alter, Insert, update, delete, grant, revoke

- conforms to ANSI Standard.

- conforms to ISO Standard.

- common for all RDBMS.

• MySQL command line client

MySQL client s/w

- used for running SQL, MySQL commands.

• MySQL workbench

- GUI base.

- MySQL PL: programming language.
 - MySQL PL used for database programming.

Subdivision of SQL

- DDL: Data Definition Language (create, drop, Alter)
- DML: Data Manipulation Language (Insert, update, delete)
- DCL: Data Control Language (Grant, Revoke)
- DQL: Data Query (select)

Not ANSI Standard:

5th component of SQL.

- DTL/TCL: Data Transaction Language / Transaction control (commit, Rollback, savepoint)

DDL: Rename, Truncate

Extra in Oracle:

DML: updsent (update + insert)

Rules for tablename:

- max 30 characters.
- A-Z, a-z, 0-9 allowed.
- Has to begin with alphabet.
- special characters \$, _ allowed.
- In MySQL if you want to use special character # in table, enclose it in back-quotes. ' '
- eg 'emp#'

Datatypes:

- | | |
|----------|----------|
| char | date |
| varchar | time |
| longtext | datetime |
| longblob | year |
| int | etc. |
| float | |

- **char**: allows any character could be alphanumeric also.
max upto 255 character.
fixed length character data.
eg- ROLL No.
- **varchar**: variable length character.
allows any character, could be alphanumeric also.
max upto 65,535 chara.
conserve on HD space
- **Longtext** : (allows any character)
max 4,294,967,295 character
eg- Resume, Experience or remarks of employee
- variable length
- **Longblob** : binary large object
Allows binary data
max upto 4 billion bytes of binary data.
eg- photos, charts, graphs, maps, sound, music.
- multimedia data type
- **Date** - 1st Jan 1000 - 31st Dec 9999 AD
default date format is YYYY-MM-DD
- **Time** : - default format (hh-mm-ss) or (HH-mm-ss)
- time values may range from (-838:59:59 to '838:59:59)
- **Datetime** : - date and time is stored together
default YYYY-MM-DD hh:mm:ss
('1000-01-01 00:00:00 to 9999 AD-12-31 23:59:59)
- **Year** :- YYYY (1901 to 2155)
no limit on number of rows per table provided
table size <= 64 Terabytes.

create table Emp

(

Empno char(4),

Ename varchar(25),

sal float(7,2),

city varchar(15),

dob date

);

7 → precision

2 → scale

eg. 8325849.52

* Inserting values:

insert into emp values ('1', 'king', 5000, 'mumbai',
'1990-10-15');

for char, varchar, date, use ' '

- year values in the range of 70-99 are automatically converted to 1970-1999.
- year values in the range 00-69 are automatically converted to 2000-2069.

~~insert~~ into emp values ('1', 'king', 5000, 'mumbai',
'1990-10-15');

- NULL means nothing
- NULL value is having ASCII value 0.
- special treatment given to NULL value in an RDBMS.
- NULL value is independent of datatype.
- NULL value occupies only 1 byte.
- if row is ending with NULL's, those columns will not occupy any space

* select:

select * from emp.