# INTRODUCTION OF ORACLE DATABASE

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# Oracle History


## Developer

- *Larry Ellision and his two friends and former co-workers ,Bob Ed dates ,started a consultancy called Software Development Miner and Laboratories(SDL) in 1977. SDL developed the original version of the Oracle Software.*

## Usage

- *Oracle Database Architecture. An Oracle database is a collection of the data treated as a information. A database server is the key to solving the problem of information management*

# Meaning of i & g in Oracle databases


- *The in oracle 8i and 9i stand for INTERNET and the g in 10g and 11g stands for GRID, because from 10g onwards oracle support grid architecture.*

## Meaning of Oracle 12c

- *Oracle released Oracle Database 12c into general availability July 1, 2013. According to Oracle, this is "the first database designed for the cloud."*

# Oracle Version History

- *1979 Oracle Release 2*
- *1986 client/server relational database*
- *1989 Oracle 6*
- *1997 Oracle 8 (object relational)*
- *1999 Oracle 8i (Java Virtual Machine)*
- *2000 Oracle Application Server*
- *2001 Oracle 9i database server*

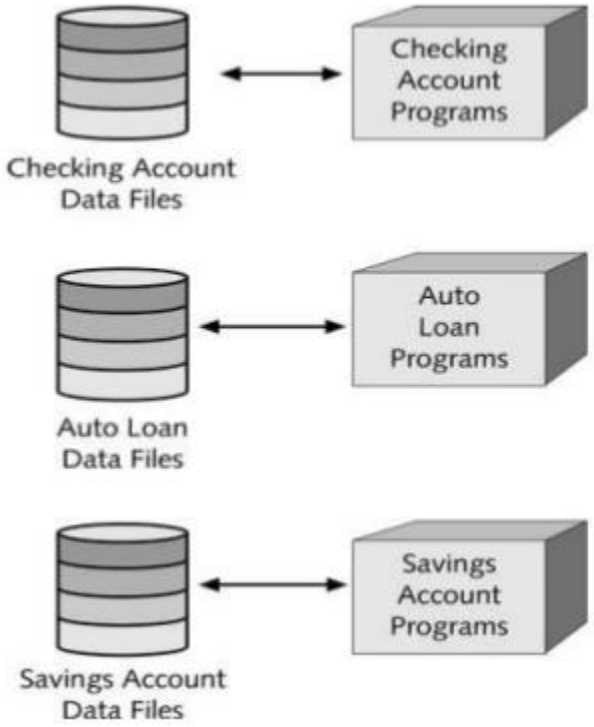
# Version are:-

- *Oracle 7:…- 7.3.4.5*
- *Oracle 8: 8.03 -8.0.6*
- *Oracle 8i: 8.1.5.0-8.1.7.4*
- *Oracle9i (Release 1): 9.0.1.0 -9.0.1.4*
- *Oracle9i (Release 2): 9.2.0.1 -9.2.0.8*
- *Oracle10g (Release 1): 10.1.0.2 -10.1.0.5*
- *Oracle10g (Release 2): 10.2.0.1 -10.2.0.5*
- *Oracle11g (Release 1): 11.1.0.6 -11.1.0.7*
- *Oracle11g (Release 2): 11.2.0.1 -11.2.0.4*
- *Oracle12c (Release 1): 12.1.0.1 -12.1.0.2.0*

# Benefits of Grid Computing :-

- *Compared to other models of computing. IT system designed and implemented in the grid style deliver*
- *Higher quality of service*
- *Lower cost*
- *Greater flexibility*
- *Higher quality of service results from having no single point of failure,*
- *A Robust security infrastructure*
- *Centralized, policy-driven management.*
- *Lower costs derive from increasing the utilization of resource.*
- *Rather than dedicating a stack of software and Hardware to a specific task*.

# File Processing



# Database Structure

- ***Logical Structure*** ***:-*** *maps the data to the physical structure.*
- ***Physical Structure*** ***:-****part of the Operating System's file structure.*
- ***Memory Structure*** ***:-*** *where all the processing takes place.*

# Schemas and Schema Objects

- **Collection of database objects:-**
- *Tables*
- *Views*
- *Sequences*
- *Indexes*
- *Procedures*
- *Function*
- *Packages*
- *Triggers*

# Security Mechanisms

- *Database  users and schemas*
- *Privileges*
- *Roles*
- *Storage settings and quotas*
- *Resource limits*
- *Auditing*

# DATA ACCESS :SQL

- *Data Definition Language (DDL) statements*
- *Data Manipulation Language(DML) statements*
- *Transaction Control  Language (TCL)*
- *Data Retrieval Language (DRL)*
- *System Control Language*
- *Session Control Language*
- *Embedded SQL statements*

# Structure Query Language Commands

- **DDL Commands:-** create table , alter table ,drop table , truncate
- **DML Commands:-** insert , delete , update
- **DRL Commands:-** Select
- **TCL Commands:-** Rollback , savepoint, commit
- **DCL Commands:-** grant , revoke

# Oracle provides the following built-in data types

- **Character data types**
- **Numeric data types**
- **DATE data types**
- **LOB data types**
- **RAW and LONG RAW data types**

# PL/SQL Structures

## General Format of PL/SQL

```
[  DECLARE
                    Declaration part:]
   BEGIN
      Executable command section;
[ Exception ……..
                    Exception handler;]
      END;
```

## PL/SQL block can be nested as

```
[    DECLARE
                    Declaration part:]
      BEGIN
                     Statement;
[  DECLARE
                    Declaration part:]
     BEGIN
      Executable command section;
[ Exception ……..
                    Exception handler;]
      END;
 [ Exception ……
                    Exception handler;]
      END;
```

# Advantages

- ***Centralized control and management system****: This allows the data to be controlled completely from a tabular exchange since it is responsible for assigning, adding, deleting records and modifying them.*
- ***Standardization****: Allows standardization between different implementations of SQL.*
- ***Grouping of transactions****: It allows to group several transactions and divide each activity into segments and thus achieve a better performance in less time possible.*
- ***Performance methods****: Applies methods to improve the database through a Cluster application.*

# Disadvantages

- ***Incompatibility and complexity***: *This is presented as a limitation in the areas of time, data syntax, and character sensitivity.*
- ***Management of the structure***: *Oracle often tends to be complex or sometimes difficult to manage for certain activities, so it is recommended to install a basic version and configure with a minimal customization.*
- ***The price***: *Many times there is no price or a specific budget for the Oracle license as it usually changes over time depending on the change of policies, patches and updates by the company.*

# Limitations of Oracle

- ***Maximum number of extents per table or index*** - *MAXEXTENTS.*
- ***Maximum number of files per database*** - *DB_FILES*
- ***Soft limit****-(The SAP software value for DB_FILES is 254).*
- ***The hard****- limit for DB_FILES depends on the operating system but is usually 1022 per tablespace and 65533 per database.*
- ***DB_FILES****- can be increased to the value of MAXDATAFILES, the value of which was specified when the database was created. MAXDATAFILES itself must be less than the permissible maximum number of open files supported by the operating system. The default value for MAXDATAFILES is also 254.*

OK !!!

***THANKS***