



자바(JAVA) 스프링(Spring) 웹앱 개발자 양성A(입문)

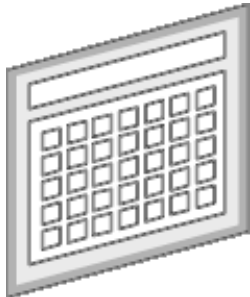


ITWILL 아이티윌 부산교육센터

다양한 데이터 저장 매체

DEPARTMENT_ID	DEPARTMENT_NAME	MANAGER_ID	LOCATION_ID
10	Administration	200	1700
20	Marketing	201	1800
30	Shipping		
40	IT		
50	Sales		
60	Executive		
70	Accounting		
80	Contracting		

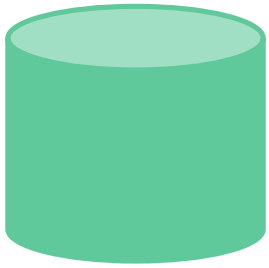
GRA	LOWEST_SAL	HIGHEST_SAL
A	1000	2999
B	3000	5999
C	6000	9999
D	10000	14999
E	15000	24999
F	20000	40000



전자
스프레드시트



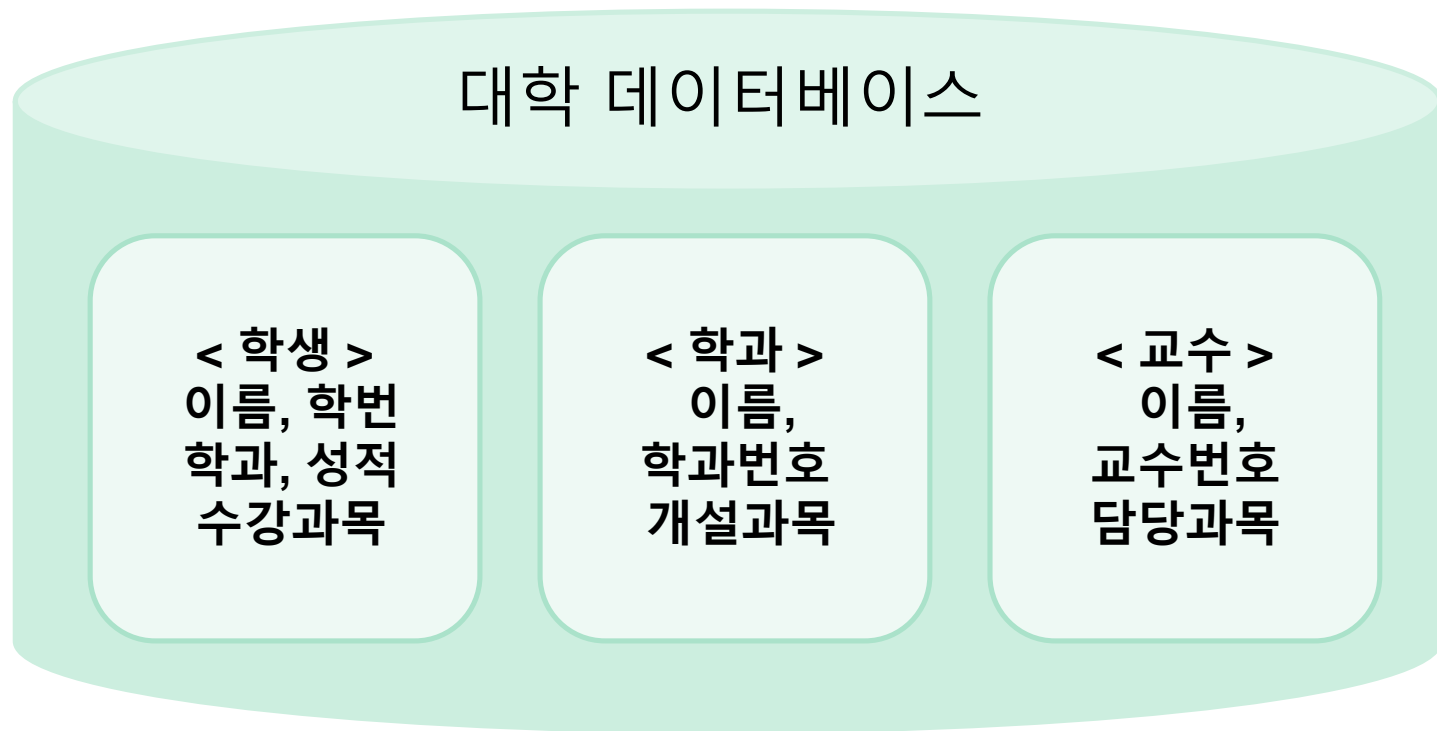
캐비닛



데이터베이스

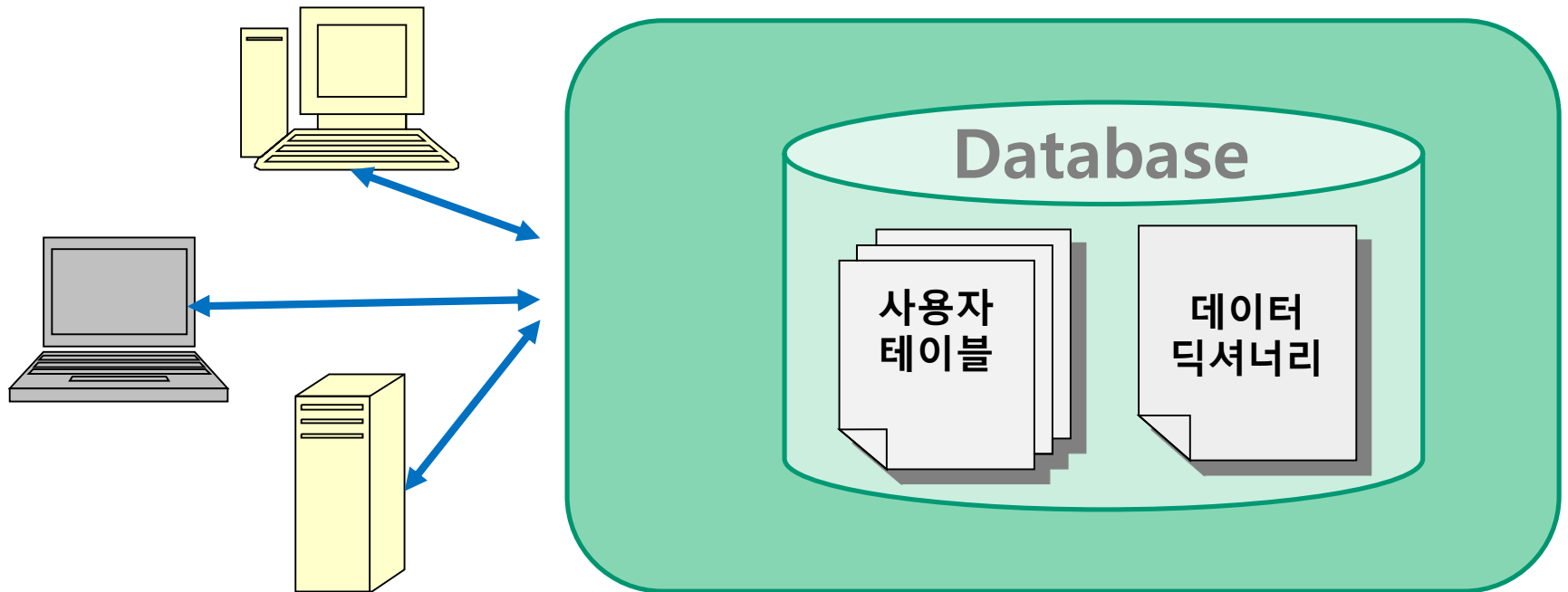
데이터베이스란?

- 조직화된 정보들의 모음
- 예시1

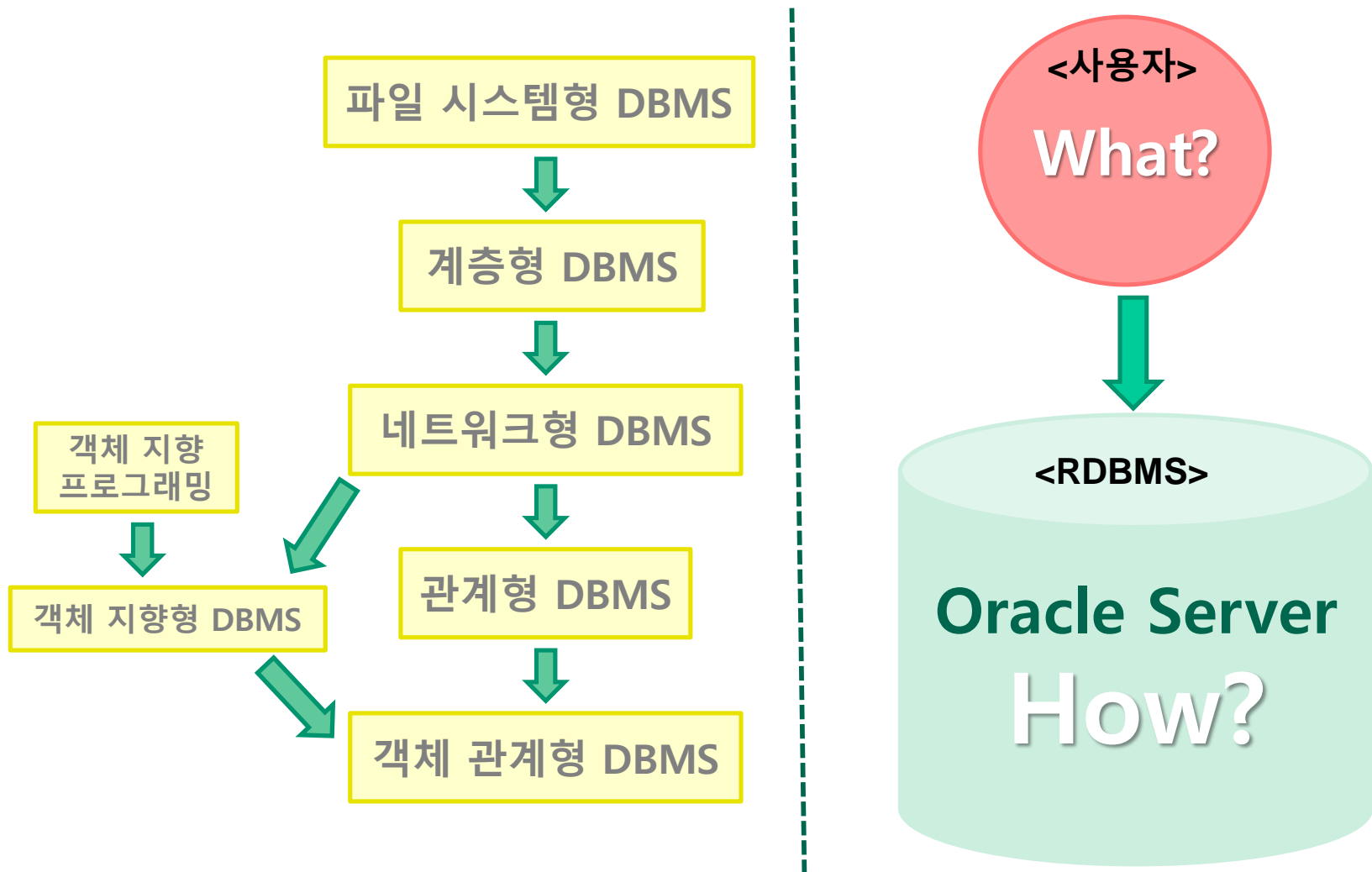


DBMS : Database Management System

- 데이터베이스 관리 시스템
- 데이터베이스에서 필요한 데이터를 검색하거나 삽입, 수정, 삭제하기 위한 프로그램



DBMS 발전 과정



SQL(Structured Query Language) 이란?

- 데이터 액세스를 위해 Oracle server와 통신하는 언어

SQL문 입력

```
SELECT department_name  
FROM departments;
```

DEPARTMENT_NAME
Administration
Marketing
Shipping
IT
Sales
Executive
Accounting
Contracting

Oracle
Server

SELECT

Data retrieval

INSERT

UPDATE

DELETE

MERGE

Data manipulation language (DML)

CREATE

ALTER

DROP

RENAME

TRUNCATE

Data definition language (DDL)

COMMIT

ROLLBACK

SAVEPOINT

Transaction control

GRANT

REVOKE

Data control language (DCL)

사용되는 용어

열(column)

EMPLOYEE_ID	LAST_NAME	FIRST_NAME	SALARY	COMMISSION_PCT	DEPARTMENT_ID
100	King	Steven	24000		90
101	Kochhar	Neena	17000		90
102	De Haan	Lex	17000		90
103	Hunold	Alexander	9000		60
104	Ernst	Bruce	6000		60
107	Lorentz	Diana	4200		60
124	Mourgos	Kevin	5800		50
141	Rajs	Trenna	3500		50
142	Davies	Curtis	3100		50
143	Matos	Randall	2600		50
144	Vargas	Peter	2500		50
149	Zlotkey	Eleni	10500	.2	80
174	Abel	Ellen	11000	.3	80
176	Taylor	Jonathon	8600	.2	80
178	Grant	Kimberely	7000	.15	
200	Whalen	Jennifer	4400		10
201	Hartstein	Michael	13000		20
202	Fay	Pat	6000		20
205	Higgins	Shelley	12000		110
206	Gietz	William	8300		110

행(row)

PRIMARY KEY & FOREIGN KEY

- PRIMARY KEY

- 테이블의 각 행(row)을 고유하게 식별하는 열(column) 또는 열 집합

- FOREIGN KEY

- 다른 테이블의 기본 키를 참조하는 열

테이블 명 : employees

EMPLOYEE_ID	FIRST_NAME	LAST_NAME	DEPARTMENT_ID
174	Ellen	Abel	80
142	Curtis	Davies	50
102	Lex	De Haan	90
104	Bruce	Ernst	60
202	Pat	Fay	20
206	William	Gietz	110

기본 키

외래 키

테이블 명 : departments

DEPARTMENT_ID	DEPARTMENT_NAME	MANAGER_ID	LOCATION_ID
10	Administration	200	1700
20	Marketing	201	1800
50	Shipping	124	1500
60	IT	103	1400
80	Sales	149	2500
90	Executive	100	1700
110	Accounting	205	1700
190	Contracting		1700

기본 키

사용되는 테이블

EMPLOYEES

EMPLOYEE_ID	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER	HIRE_DATE	JOB_ID	SALA
100	Steven	King	SKING	515.123.4567	17-JUN-87	AD_PRES	240
101	Neena	Kochhar	NKOCHHAR	515.123.4568	21-SEP-89	AD_VP	170
102	Lex	De Haan	LDEHAAN	515.123.4569	13-JAN-93	AD_VP	170
103	Alexander	Hunold	AHUNOLD	590.423.4567	03-JAN-90	IT_PROG	90
104	Bruce	Ernst	BERNST	590.423.4568	21-MAY-91	IT_PROG	60
107	Diana	Lorentz	DLORENTZ	590.423.5567	07-FEB-99	IT_PROG	42
124	Kevin	Mourgos	KMOURGOS	650.123.5234	16-NOV-99	ST_MAN	58
141	Trenna	Rajs	TRAJS	650.121.8009	17-OCT-95	ST_CLERK	35
142	Curtis	Davies	CDAVIES	650.121.2994	29-JAN-97	ST_CLERK	31
143	Randall	Matos	RMATOS	650.121.2874	15-MAR-98	ST_CLERK	26

DEPARTMENT_ID	DEPARTMENT_NAME	MANAGER_ID	LOCATION_ID	GRA	LOWEST_SAL	HIGHEST_SAL
10	Administration	200	1700	A	1000	2999
20	Marketing	201	1800	B	3000	5999
50	Shipping	124	1500	C	6000	9999
60	IT	103	1400	D	10000	14999
80	Sales	149	2500	E	15000	24999
90	Executive	100	1700	F	25000	40000
110	Accounting	205	1700			
190	Contracting		1700			

JOB_GRADES

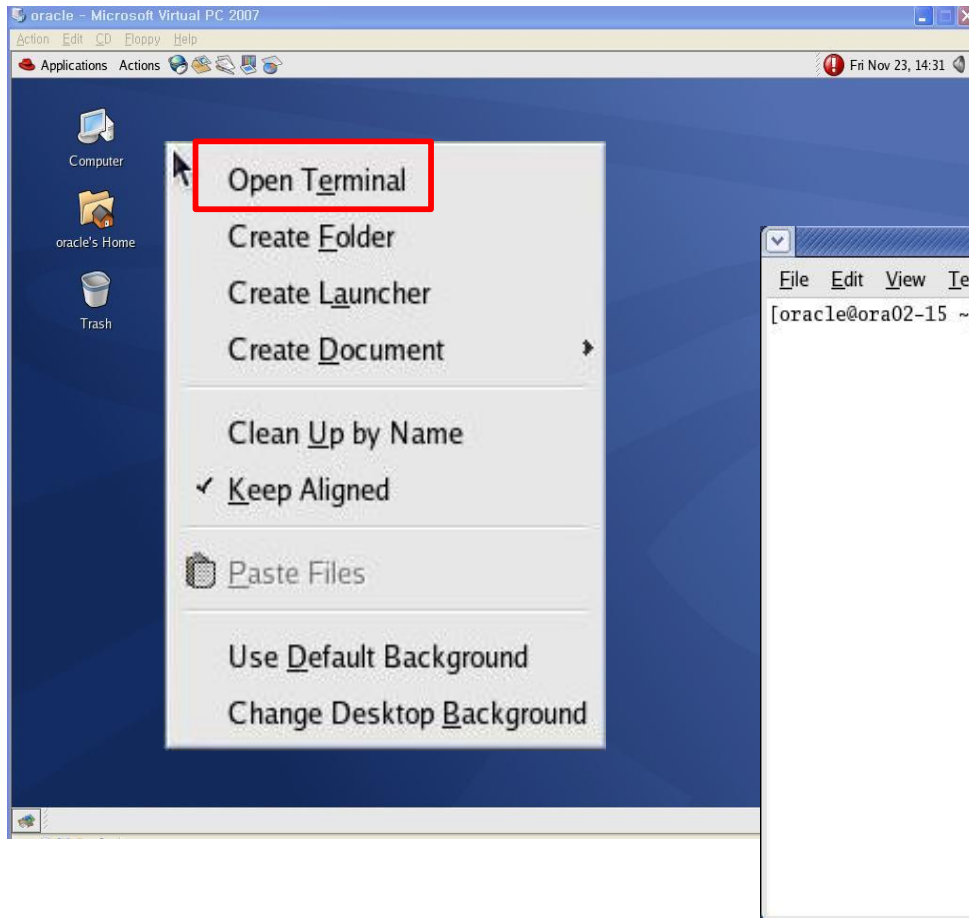
DEPARTMENTS

오라클에 사용되는 유저들

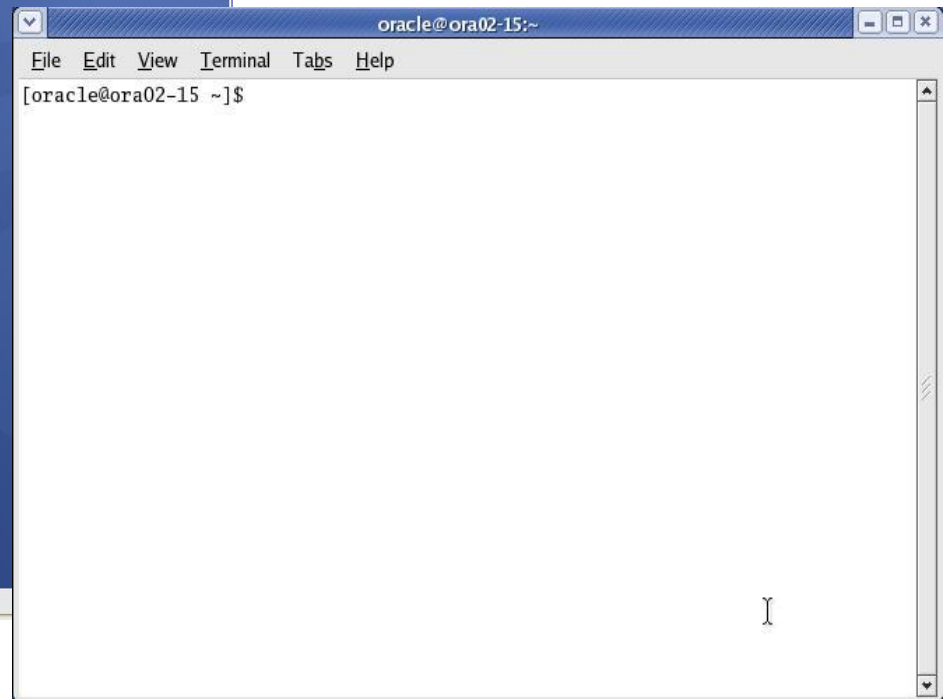
- SYS, SYSTEM
 - 사용자를 만들거나 데이터베이스를 관리할 수 있는 권한(DBA)을 가지고 있다
 - SYS : SYSDBA 권한 소유
 - SYSTEM : DBA 권한 소유
- HR, SCOTT
 - 일반 사용자로 오라클의 기본 SQL문을 테스트 하기 위한 테이블과 데이터가 있다.

Database 기동 - 1

- Open Terminal 실행

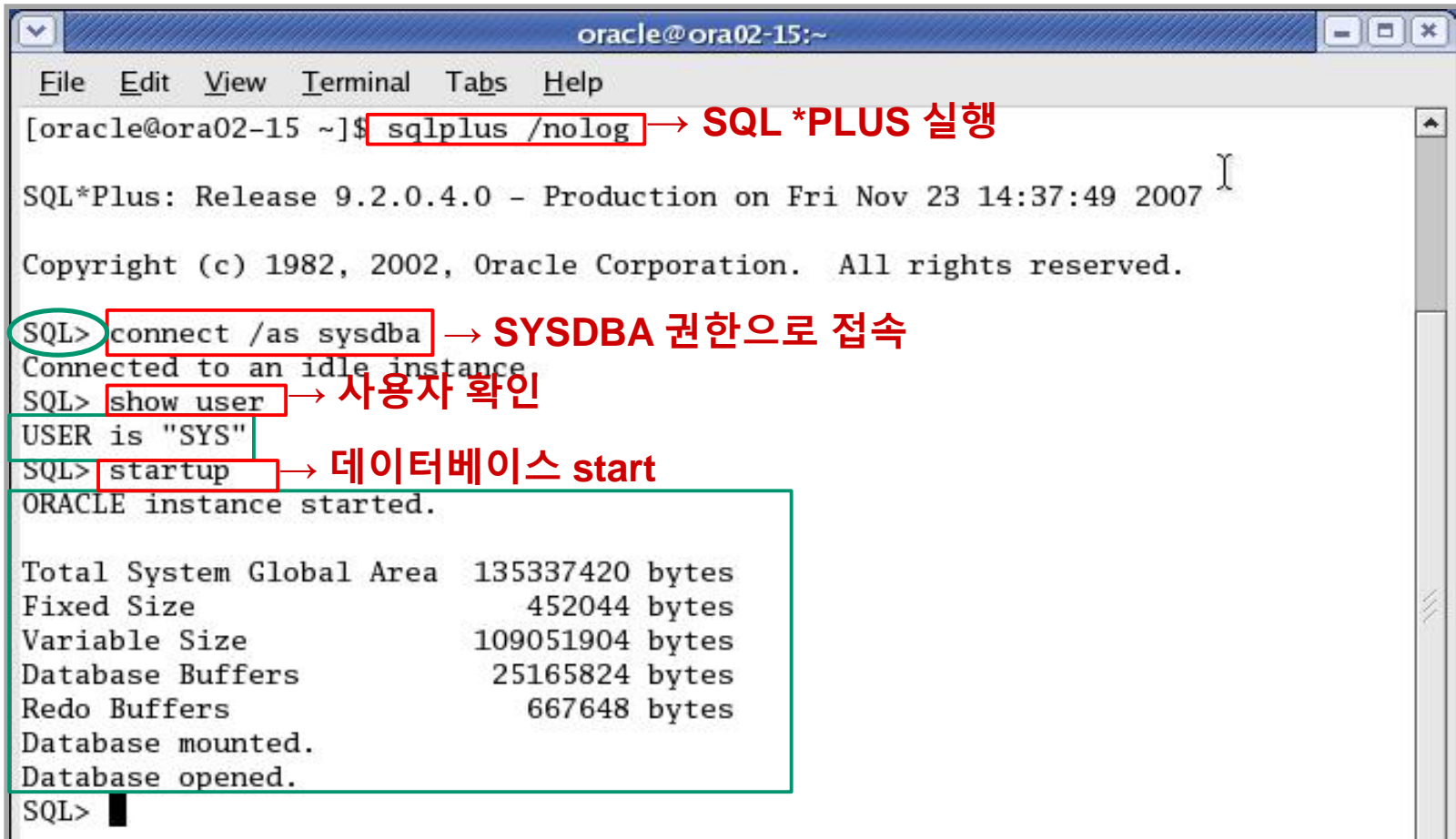


바탕화면에서 마우스 오른쪽
버튼 클릭-[Open Terminal]



Database 기동 - 2

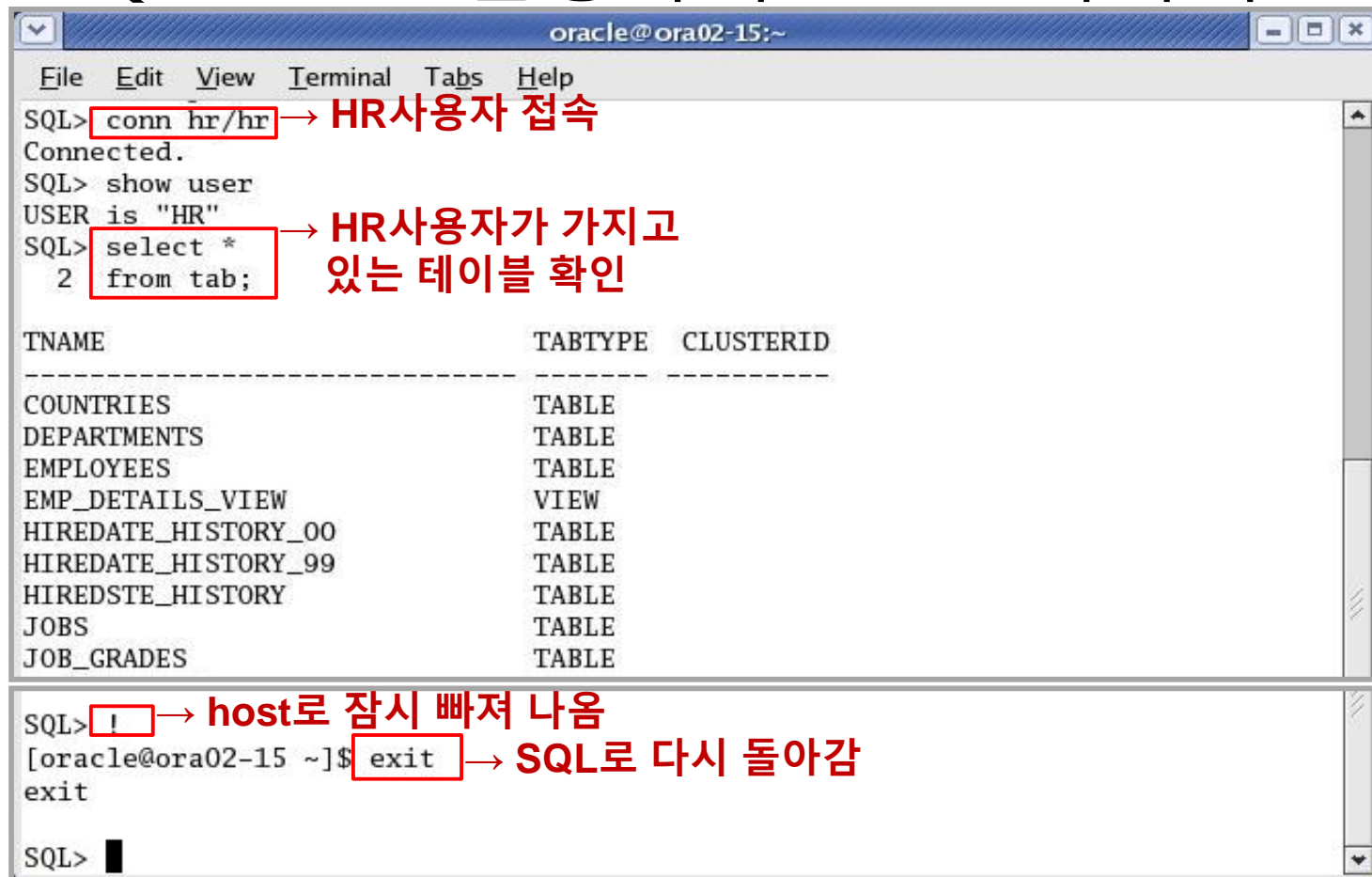
- SQL *PLUS 실행하기-DB start



```
oracle@ora02-15:~  
File Edit View Terminal Tabs Help  
[oracle@ora02-15 ~]$ sqlplus /nolog → SQL *PLUS 실행  
  
SQL*Plus: Release 9.2.0.4.0 - Production on Fri Nov 23 14:37:49 2007  
  
Copyright (c) 1982, 2002, Oracle Corporation. All rights reserved.  
  
SQL> connect /as sysdba → SYSDBA 권한으로 접속  
Connected to an idle instance.  
SQL> show user → 사용자 확인  
USER is "SYS"  
SQL> startup → 데이터베이스 start  
ORACLE instance started.  
  
Total System Global Area 135337420 bytes  
Fixed Size 452044 bytes  
Variable Size 109051904 bytes  
Database Buffers 25165824 bytes  
Redo Buffers 667648 bytes  
Database mounted.  
Database opened.  
SQL> █
```

Database 기동 - 5

- SQL *PLUS 실행하기-HR 접속하기



```
oracle@ora02-15:~  
File Edit View Terminal Tabs Help  
SQL> conn hr/hr → HR사용자 접속  
Connected.  
SQL> show user  
USER is "HR"  
SQL> select *  
2 from tab; → HR사용자가 가지고 있는 테이블 확인  
  
TNAME                                TABTYPE  CLUSTERID  
-----  
COUNTRIES                           TABLE  
DEPARTMENTS                         TABLE  
EMPLOYEES                          TABLE  
EMP_DETAILS_VIEW                   VIEW  
HIREDATE_HISTORY_00                TABLE  
HIREDATE_HISTORY_99                TABLE  
HIREDSTE_HISTORY                   TABLE  
JOBS                               TABLE  
JOB_GRADES                         TABLE  
  
SQL> ! → host로 잠시 빠져 나옴  
[oracle@ora02-15 ~]$ exit → SQL로 다시 돌아감  
exit  
  
SQL> █
```