

ORACLE APPLICATION DEVELOPMENT &  
PERFORMANCE MANAGEMENT TOOL



Tip &

ORACLE APPLICATION DEVELOPMENT &  
PERFORMANCE MANAGEMENT TOOL



Tip

# Bind Variable

- SQL Tool Bind Query

SQL1 \* |

```

1 SELECT dept.deptno,
2     dept.dname,
3     emp.empno,
4     emp.ename,
5     emp.job,
6     emp.sal
7 FROM dept, emp
8 WHERE dept.deptno = emp.deptno ;
9 |

```

SQL: SELECT dept.deptno, dept.dname, emp.empno, emp.ename, emp.job, emp.sal

Last Execute SQL: SELECT dept.deptno, dept.dname, emp.empno, emp.ename, emp.job, emp.sal

Query Result | Server Output | Text Output | Explain Plan | Statistics

	DEPTNO	DNAME	EMPNO	ENAME	JOB	SAL
1	20	RESEARCH	7369	SMITH	CLERK	800
2	30	SALES	7499	ALLEN	SALESMAN	1600
3	30	SALES	7521	WARD	SALESMAN	1250
4	20	RESEARCH	7566	JONES	MANAGER	2975
5	30	SALES	7654	MARTIN	SALESMAN	1250
6	30	SALES	7698	BLAKE	MANAGER	2850
7	10	ACCOUNTING	7782	CLARK	MANAGER	2450
8	20	RESEARCH	7788	SCOTT	ANALYST	3000
9	10	ACCOUNTING	7839	KING	PRESIDENT	5000
10	30	SALES	7844	TURNER	SALESMAN	1500

SQL: SELECT dept.deptno, dept.dname, emp.empno, emp.ename, emp.job, emp.sal

Server Output | Text Output | Explain Plan | Statistics

	DNAME	EMPNO	ENAME	JOB	SAL
20	RESEARCH	7566	JONES	MANAGER	2975
30	SALES	7698	BLAKE	MANAGER	2850
10	ACCOUNTING	7782	CLARK	MANAGER	2450
20	RESEARCH	7788	SCOTT	ANALYST	3000
10	ACCOUNTING	7839	KING	PRESIDENT	5000
20	RESEARCH	7902	FORD	ANALYST	3000

# Bind Variable

- Bind Variable List

SQL1 \*

```

1 SELECT dept.deptno,
2     dept.dname,
3     emp.empno,
4     emp.ename,
5     emp.job,
6     emp.sal
7 FROM dept, emp
8 WHERE dept.deptno = emp.deptno
9     and emp.sal > :var ;

```

Bind Variable List

Variable	Type	Value
:var	String	3000

Last Execute SQL: SELECT dept.deptno, dept.dname, emp.empno, emp.ename, emp.job, emp.sal

Query Result | Server Output | Text Output | Explain Plan | Statistics

	DEPTNO	DNAME	EMPNO	ENAME	JOB	SAL
1	20	RESEARCH	7566	JONES	MANAGER	2975
2	30	SALES	7698	BLAKE	MANAGER	2850
3	10	ACCOUNTING	7782	CLARK	MANAGER	2450
4	20	RESEARCH	7788	SCOTT	ANALYST	3000
5	10	ACCOUNTING	7839	KING	PRESIDENT	5000
6	20	RESEARCH	7902	FORD	ANALYST	3000

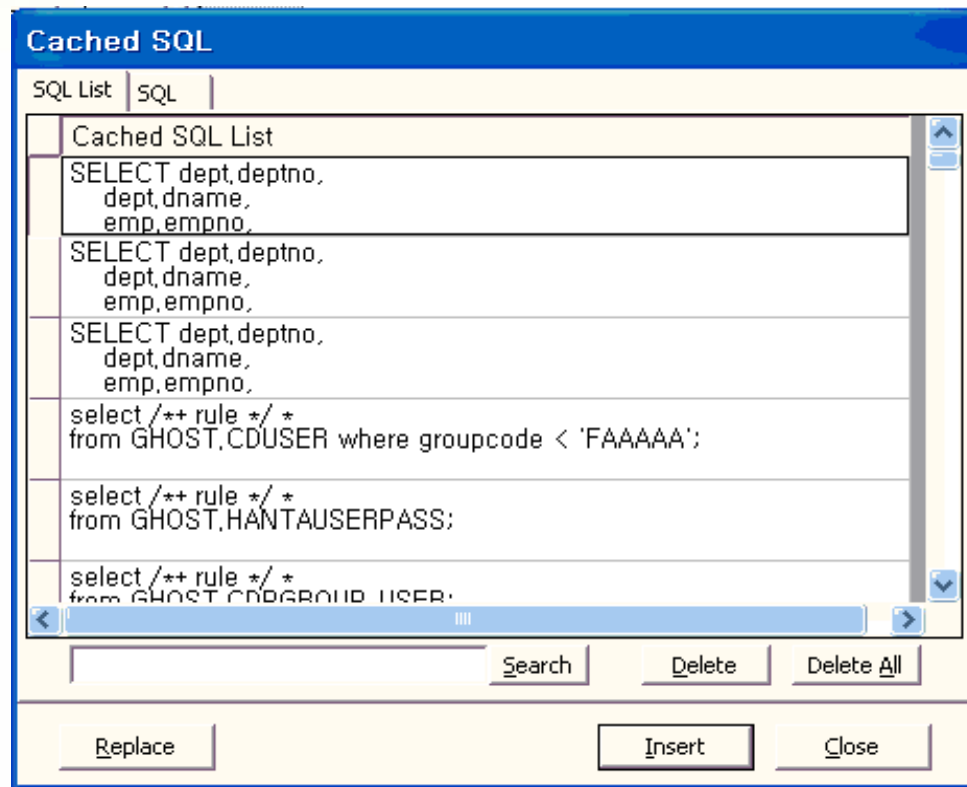
dept.deptno, dept.dname, emp.empno, emp.ename, emp.job, emp.sal

Text Output | Explain Plan | Statistics

	EMPNO	ENAME	JOB	SAL
ACCOUNTING	7839	KING	PRESIDENT	5000

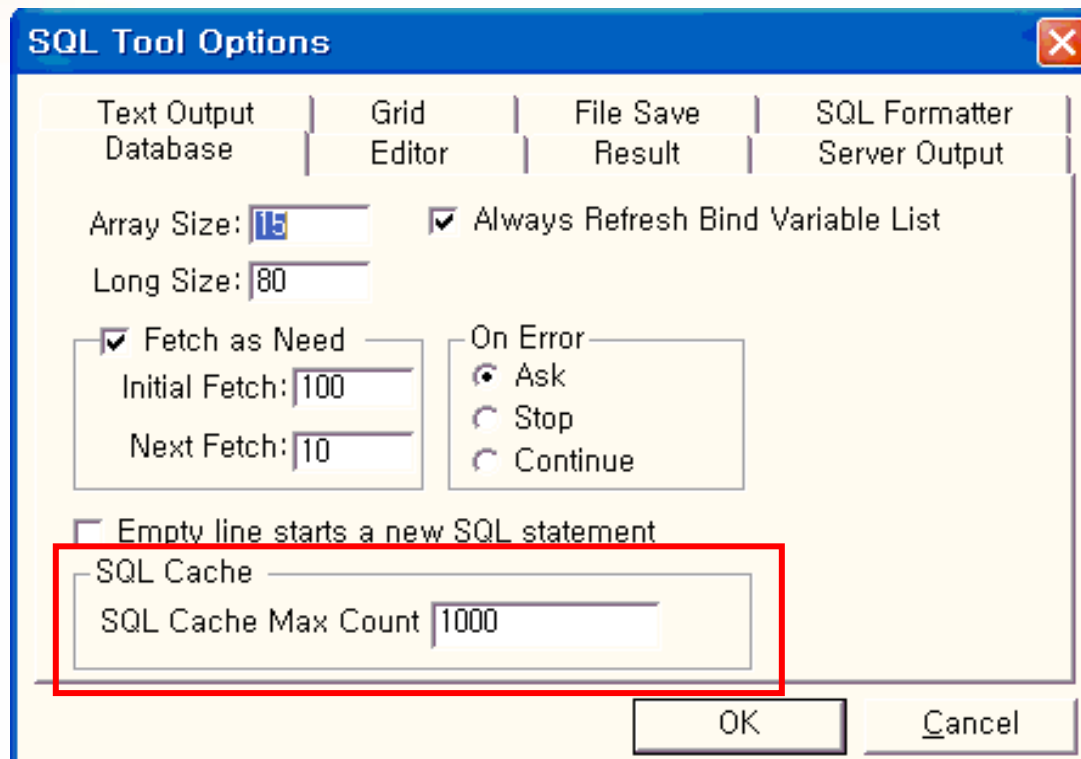
# Cached SQL

- F8 Local PC Cache SQL .
  - INSERT SQL EDITOR
- 가 .



# Cached SQL

- SQL Tool Option Database SQL Cache Max Count
- Max 1000



**SQL Tool Options**

Text Output	Grid	File Save	SQL Formatter
Database	Editor	Result	Server Output

Array Size:   Always Refresh Bind Variable List

Long Size:

Fetch as Need  
Initial Fetch:   
Next Fetch:

On Error  
 Ask  
 Stop  
 Continue

Empty line starts a new SQL statement

SQL Cache  
SQL Cache Max Count

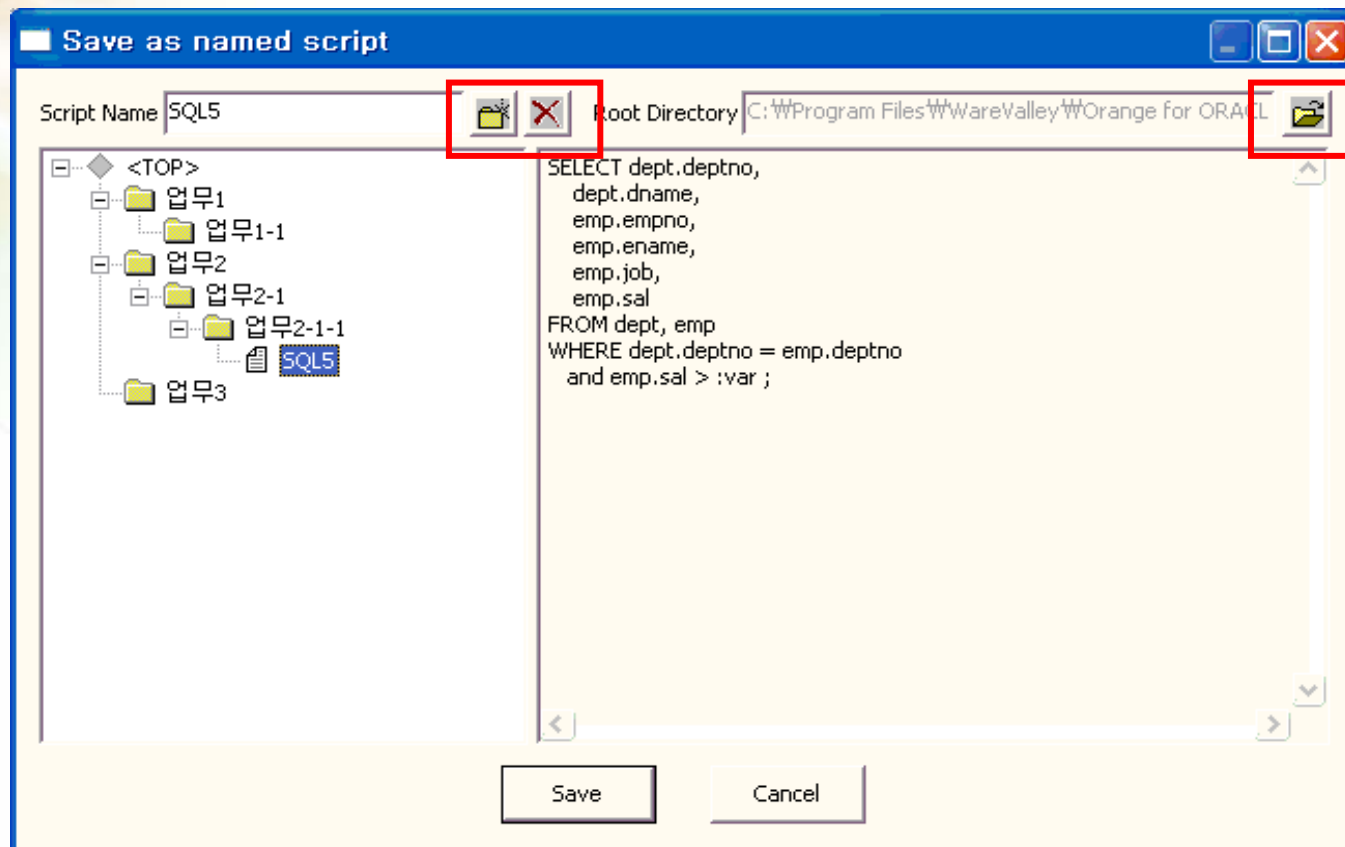
OK Cancel

# Named Script

SQL

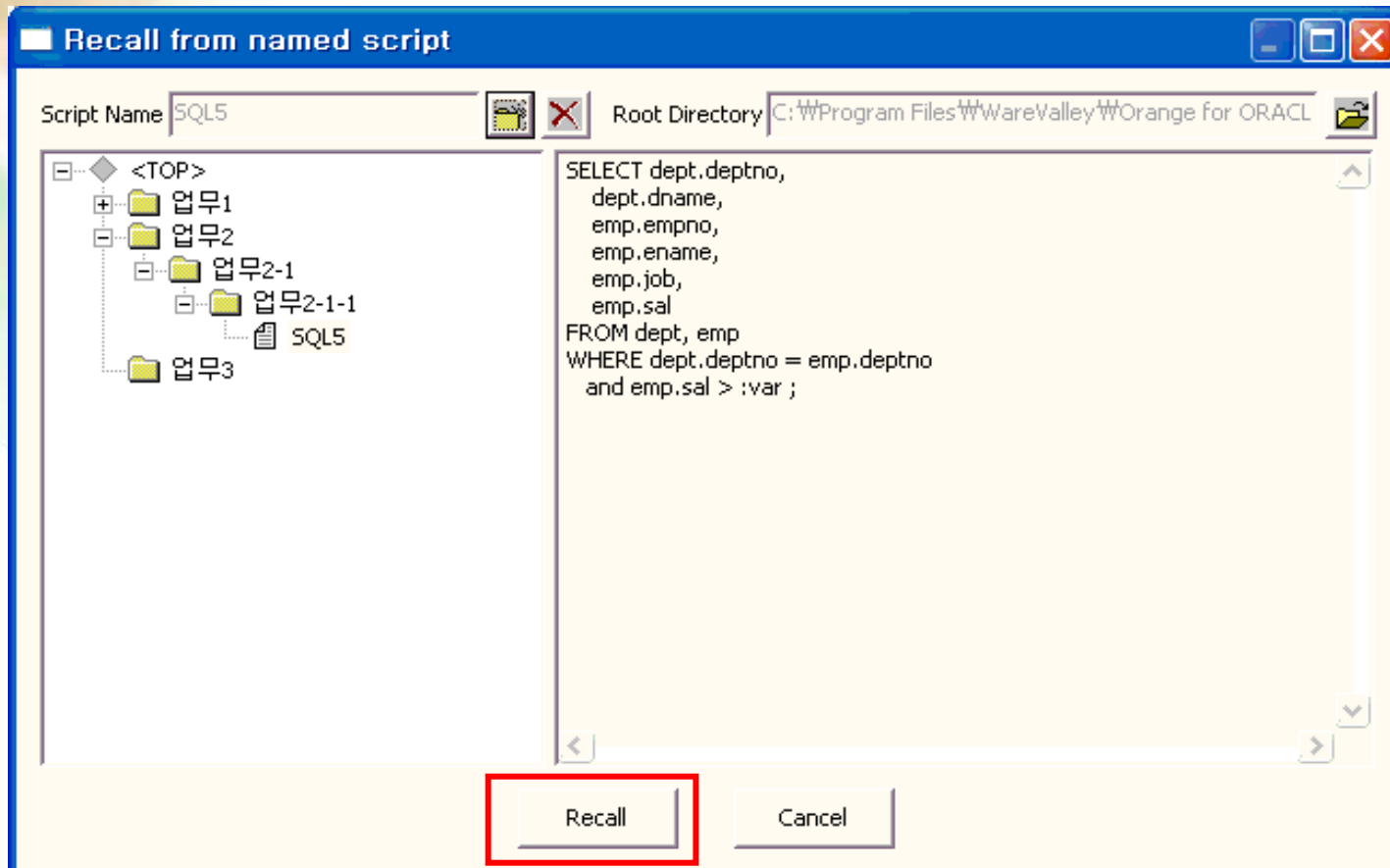
ALT+R

Named Script



# Named Script

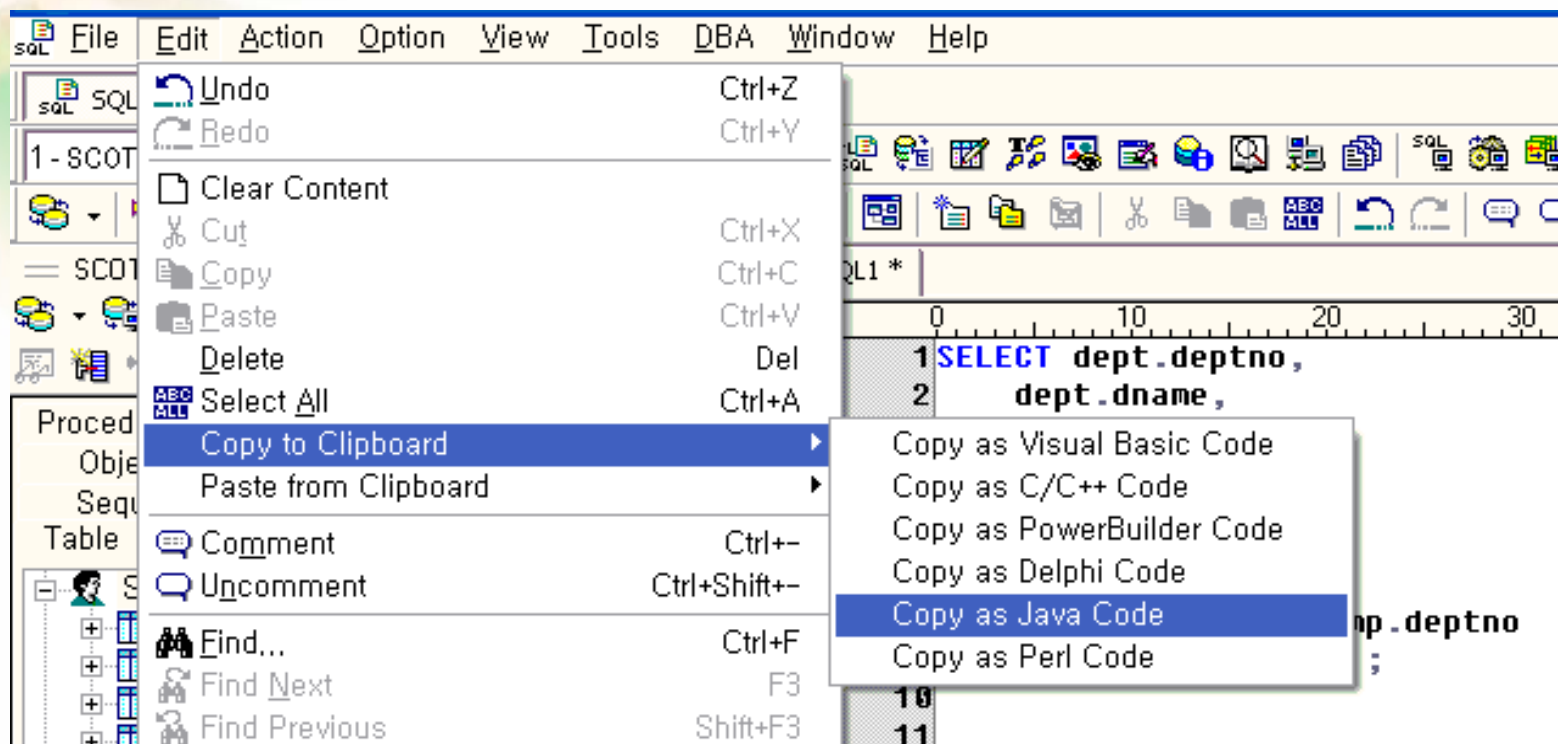
- Named Script                      CTRL+R





# Code conversion

- SQL Visual Basic, C/C++, PowerBuilder, Delphi, Java, Perl



The screenshot shows the Oracle SQL Developer interface. The main window displays an SQL query: `SELECT dept.deptno, dept.dname,`. A context menu is open over the query, with the 'Copy to Clipboard' option selected. A sub-menu is also open, showing options for copying the code into different languages: Visual Basic Code, C/C++ Code, PowerBuilder Code, Delphi Code, Java Code (highlighted), and Perl Code. The menu bar includes File, Edit, Action, Option, View, Tools, DBA, Window, and Help. The left sidebar shows a tree view with 'SQL' selected. The bottom status bar shows line numbers 10 and 11.

# Code conversion

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PERFORMANCE MANAGEMENT TOOL

Orange  
by ORACLE



SQL1 \*

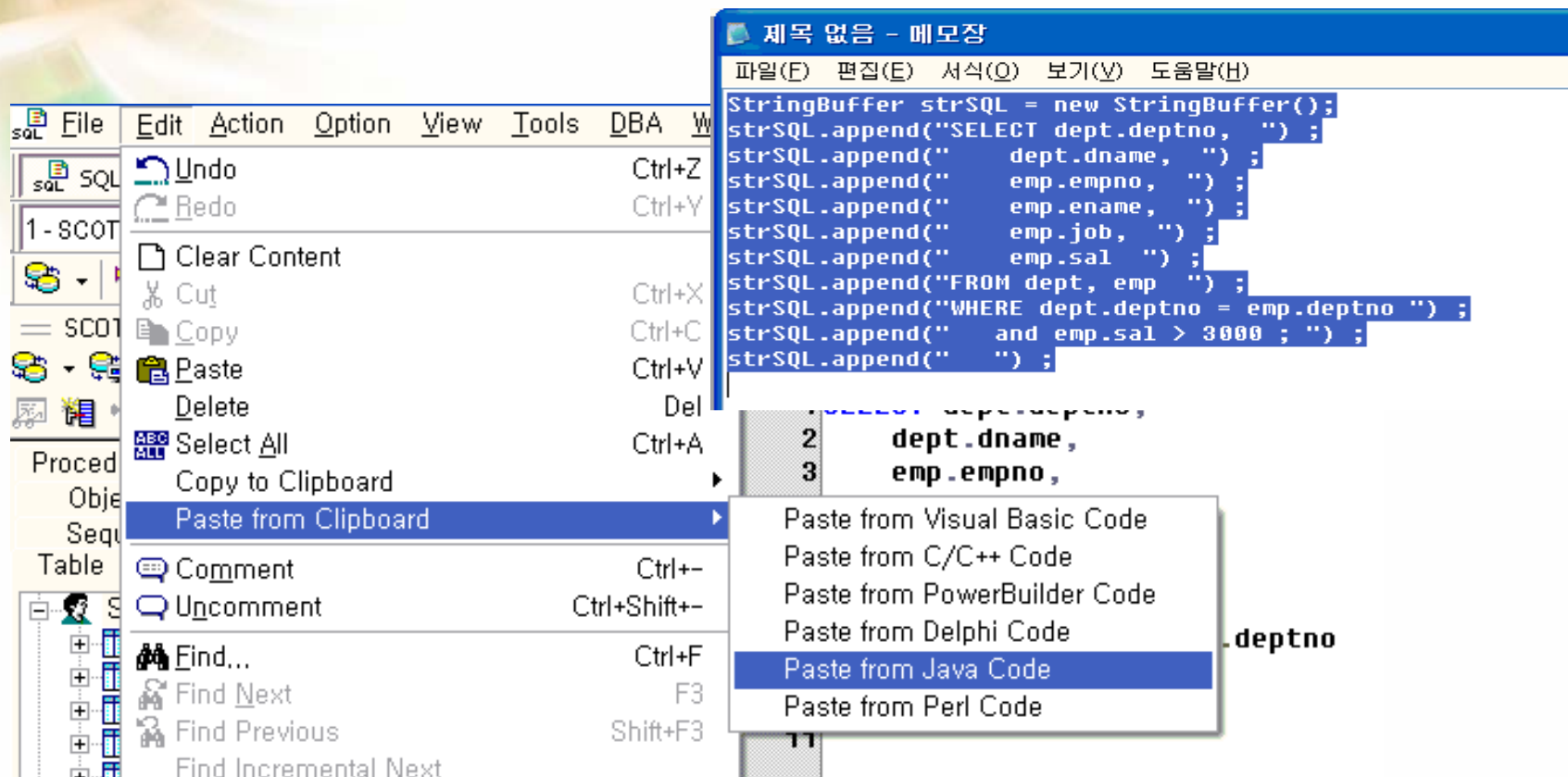
```
0 10 20 30
1 SELECT dept.deptno,
2     dept.dname,
3     emp.empno,
4     emp.ename,
5     emp.job,
6     emp.sal
7 FROM dept, emp
8 WHERE dept.deptno = emp.deptno
9     and emp.sal > 3000 ;
10
11
```

제목 없음 - 메모장

파일(F) 편집(E) 서식(O) 보기(V) 도움말(H)

```
StringBuffer strSQL = new StringBuffer();
strSQL.append("SELECT dept.deptno, ");
strSQL.append("    dept.dname, ");
strSQL.append("    emp.empno, ");
strSQL.append("    emp.ename, ");
strSQL.append("    emp.job, ");
strSQL.append("    emp.sal ");
strSQL.append("FROM dept, emp ");
strSQL.append("WHERE dept.deptno = emp.deptno ");
strSQL.append("    and emp.sal > 3000 ; ");
strSQL.append(" ");
```

# Code conversion



The screenshot shows the Orange IDE interface with a menu open for code conversion. The menu is titled "제목 없음 - 메모장" and contains the following options:

- 파일(F) 편집(E) 서식(O) 보기(V) 도움말(H)
- StringBuffer strSQL = new StringBuffer();
- strSQL.append("SELECT dept.deptno, ");
- strSQL.append(" dept.dname, ");
- strSQL.append(" emp.empno, ");
- strSQL.append(" emp.ename, ");
- strSQL.append(" emp.job, ");
- strSQL.append(" emp.sal ");
- strSQL.append("FROM dept, emp ");
- strSQL.append("WHERE dept.deptno = emp.deptno ");
- strSQL.append(" and emp.sal > 3000 ; ");
- strSQL.append(" ");

The code conversion menu is open, showing the following options:

- Paste from Visual Basic Code
- Paste from C/C++ Code
- Paste from PowerBuilder Code
- Paste from Delphi Code
- Paste from Java Code** (selected)
- Paste from Perl Code

The background code snippet shows the following SQL query:

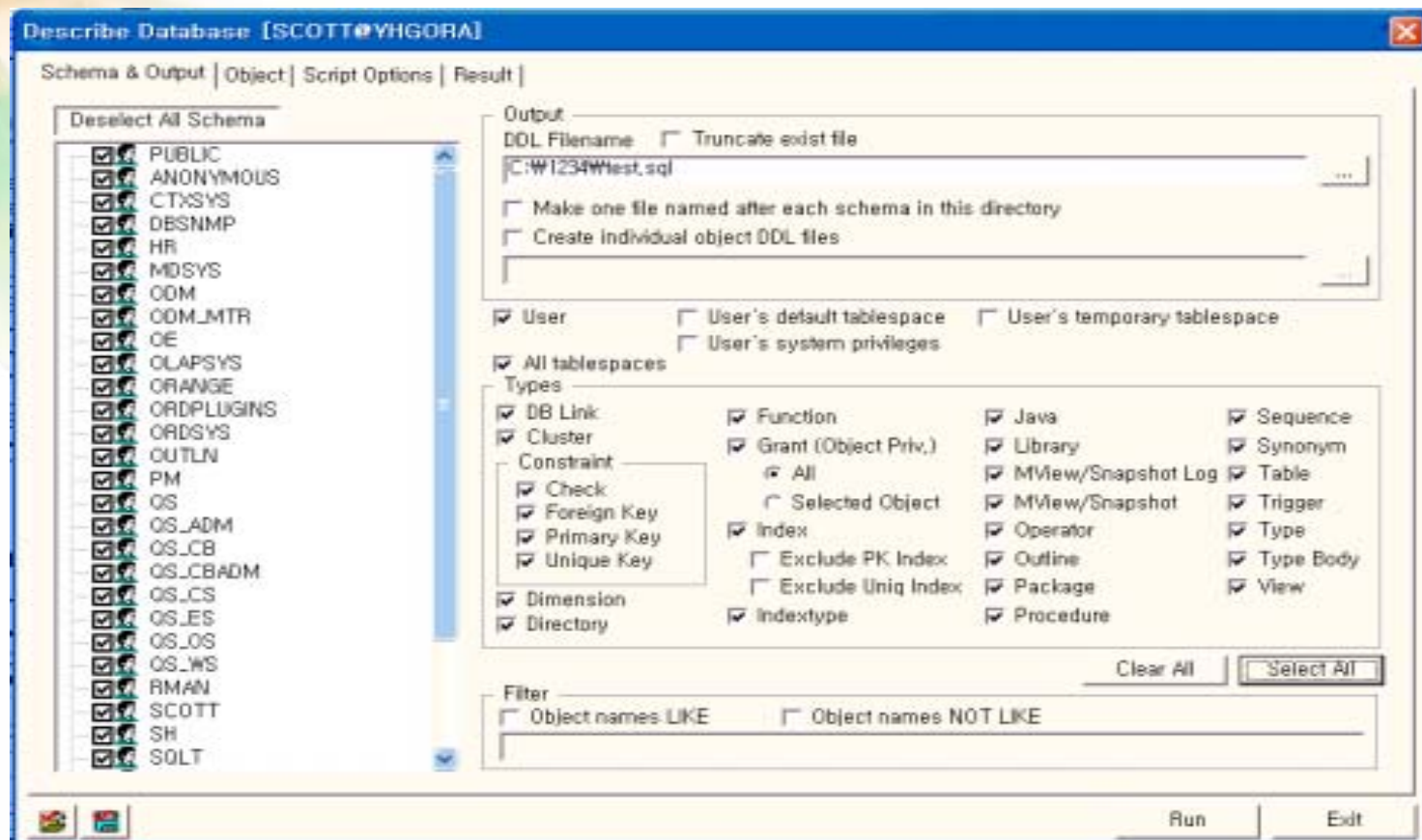
```
1 SELECT dept.deptno,  
2 dept.dname,  
3 emp.empno,  
4 emp.ename,  
5 emp.job,  
6 emp.sal  
7 FROM dept, emp  
8 WHERE dept.deptno = emp.deptno  
9 and emp.sal > 3000 ;
```

# Describe DB Objects

ORACLE APPLICATION DEVELOPMENT &  
PERFORMANCE MANAGEMENT TOOL



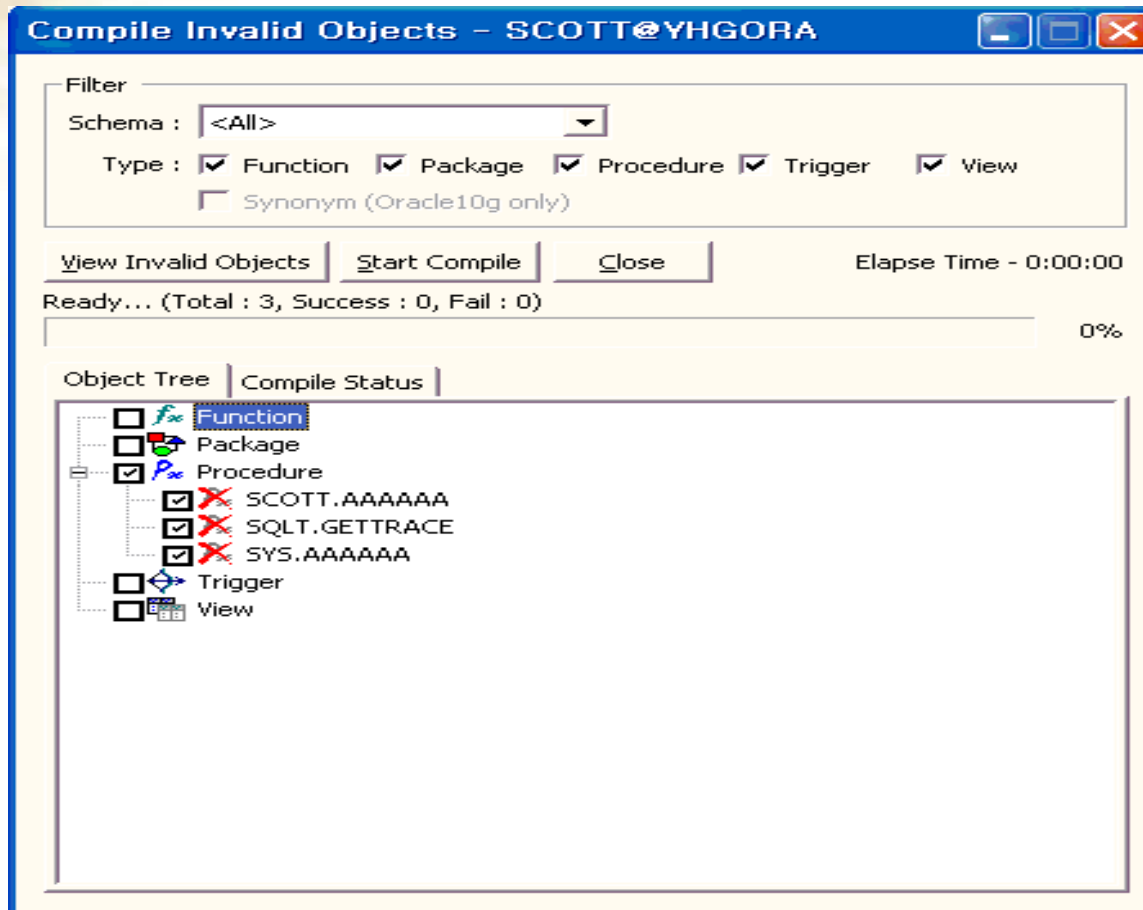
- Schema
- Objects
- Tablespace
- Script



# Compile invalid objects

Invalid Object

Compile



The screenshot shows the 'Compile Invalid Objects' dialog box for user SCOTT@YHGORA. The 'Filter' section is set to 'Schema: <All>' and includes checkboxes for 'Function', 'Package', 'Procedure', 'Trigger', and 'View', all of which are checked. 'Synonym (Oracle10g only)' is unchecked. Below the filter are buttons for 'View Invalid Objects', 'Start Compile', and 'Close'. The 'Elapse Time' is 0:00:00. The status bar shows 'Ready... (Total : 3, Success : 0, Fail : 0)' and a progress bar at 0%. The 'Object Tree' is expanded to show 'Procedure' objects: SCOTT.AAAAAA, SQL.GETTRACE, and SYS.AAAAAA, each with a red 'X' icon indicating it is invalid.

Compile Invalid Objects - SCOTT@YHGORA

Filter

Schema : <All>

Type :  Function  Package  Procedure  Trigger  View  
 Synonym (Oracle10g only)

View Invalid Objects Start Compile Close Elapse Time - 0:00:00

Ready... (Total : 3, Success : 0, Fail : 0) 0%

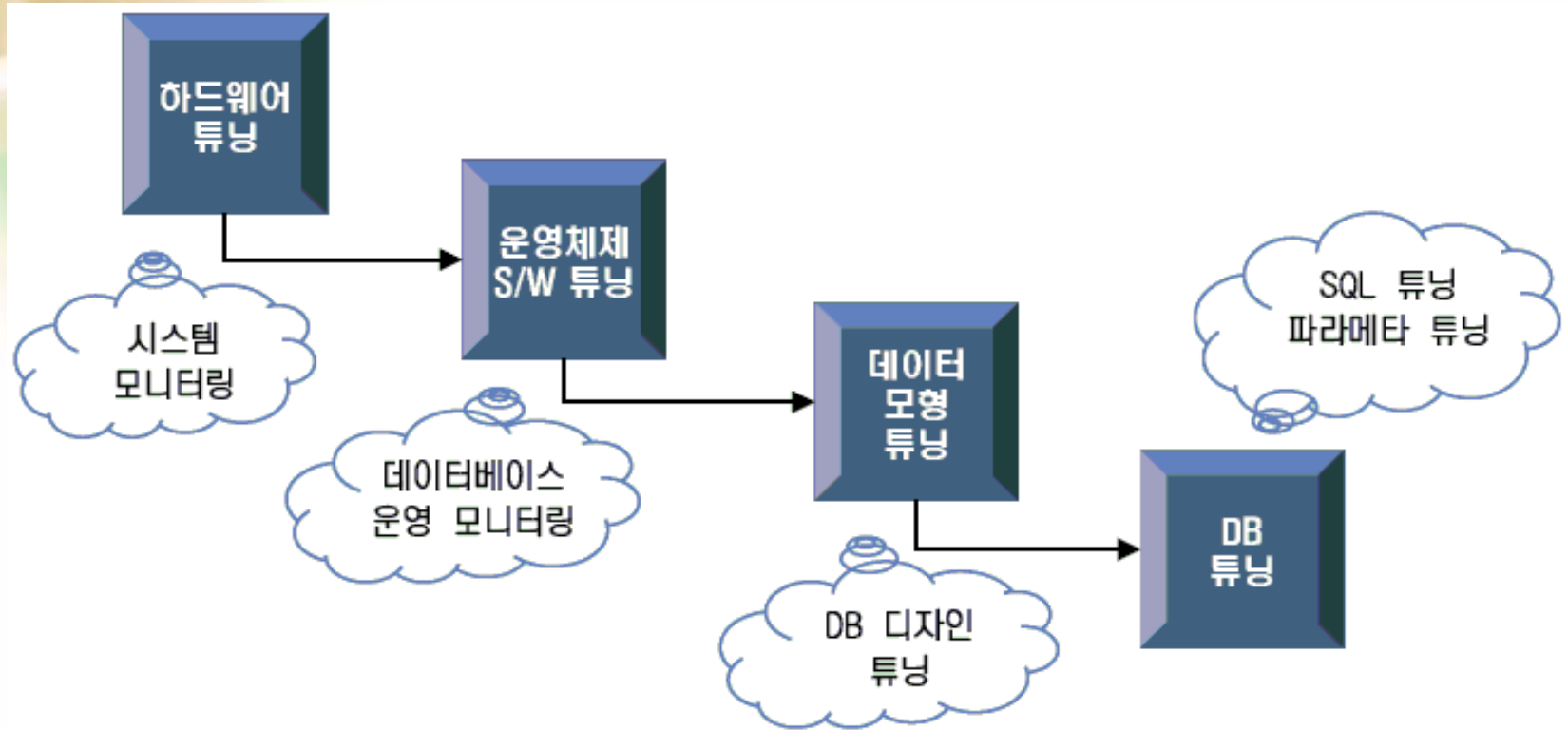
Object Tree | Compile Status

- Function
- Package
- Procedure
  - SCOTT.AAAAAA
  - SQL.GETTRACE
  - SYS.AAAAAA
- Trigger
- View

ORACLE APPLICATION DEVELOPMENT &  
PERFORMANCE MANAGEMENT TOOL

Orange<sup>TM</sup>  
For ORACLE





- SQL Tuning

- 

- 

- 

SQL

가

가



# Application (SQL )

- A.
- B. SQL
- C. SQL
- D. SQL

튜닝의  
최우선  
대상은 . . . .

“사용횟수가 많은 프로그램”  
“사용자가 많이 사용하는 프로그램”  
“빠른 프로그램을 더 빠르게”

Tool	
Plan Tool	SQL , ,
SQL Tool	SQL , , , , Server output
Trace Tool	Local Remote(FTP)
DBMS Information	
SQL Monitor	SQL Shared pool SQL
Session Monitor	
Health Check	DB 가
Analyze Manager	

# SQL Tool

The screenshot shows the Orange SQL Tool window. The title bar reads "Orange - [SQL Tool:SCOTT@ORA10+ /SQL1+ ]". The menu bar includes "File", "Edit", "Action", "Option", "View", "Tools", "DBA", "Window", and "Help". The toolbar contains various icons, with six icons highlighted by red boxes. Below the toolbar, a text box lists the following actions and their keyboard shortcuts: "순차실행 (CTRL+J)", "커서라인 실행 (CTRL+K)", "선택 실행 (CTRL+L)", and "모든 탭 실행".

Annotations in Korean point to these features:

- 일괄실행 (F5)**: Points to the first icon in the red box.
- 현 위치부터 실행 (CTRL+M)**: Points to the second icon in the red box.
- 순차실행 (CTRL+J)**: Points to the third icon in the red box.
- 커서라인 실행 (CTRL+K)**: Points to the fourth icon in the red box.
- 선택 실행 (CTRL+L)**: Points to the fifth icon in the red box.
- 모든 탭 실행**: Points to the sixth icon in the red box.
- SQL Tool 창**: Points to the entire window frame.

At the bottom of the window, there is a "Last Execute SQL:" field, tabs for "Query Result", "Server Output", and "Text Output", and a status bar showing "Ln 1, Col 1".

# SQL Tool

ORACLE APPLICATION DEVELOPMENT &  
PERFORMANCE MANAGEMENT TOOL



SQL1 \*

```
1 SELECT dept.deptno,
2     dept.dname,
3     emp.empno,
4     emp.ename,
5     emp.job,
6     emp.sal
7 FROM dept, emp
8 WHERE dept.deptno = emp.deptno
9     and emp.sal > 3000 ;
```

Last Execute SQL: SELECT dept.deptno, dept.dname, emp.empno,

Query Result | Server Output | Text Output | Explain Plan | Statistics |

```
2007/04/24 23:34:36 SQL> SELECT dept.deptno,
dept.dname,
emp.empno,
emp.ename,
emp.job,
emp.sal
FROM dept, emp
WHERE dept.deptno = emp.deptno
and emp.sal > 3000;
```

DEP	DNAME	EMPNO	ENAME	JOB	SAL
10	ACCOUNTING	7839	KING	PRESIDENT	5000

1 rows selected.

Execution Time: 00:00:00.70  
Elapsed Time: 00:00:00.110

### SQL Tool Options

Database Text Output	Editor Grid	Result File Save	Server Output SQL Formatter
----------------------	-------------	------------------	-----------------------------

Max. NUMBER Width(Min.

Clear Output  
 Never  
 On Execution

Time Output  
 Set Time  
 Set Timing

Display Limit  
 lines

OK Cancel

# PLAN Tool

ORACLE APPLICATION DEVELOPMENT &  
PERFORMANCE MANAGEMENT TOOL



Plan Tool 실행버튼

Plan Tool 창

실행계획

스키마 정보

트레이스 실행

SQL 실행

```
select d.dname, e.ename
from dept d, emp e
where d.deptno = e.deptno
and e.ename = 'ALLEN';
```

SELECT STATEMENT Optimizer=CHOOSE

- NESTED LOOPS (Cost=4 Card=2 Bytes=42)
  - TABLE ACCESS (BY INDEX ROWID) OF 'EMP' (Cost=2 Card=2 Bytes=20)
    - INDEX (RANGE SCAN) OF 'IX\_ENAME' (NON-UNIQUE) (Cost=1 Card=2)
  - TABLE ACCESS (BY INDEX ROWID) OF 'DEPT' (Cost=1 Card=4 Bytes=44)
    - INDEX (UNIQUE SCAN) OF 'PK\_DEPT' (UNIQUE) (Card=4)

# PLAN Tool

ORACLE APPLICATION DEVELOPMENT &  
PERFORMANCE MANAGEMENT TOOL



The screenshot shows the Oracle PLAN Tool interface. The main window displays a SQL query and its execution plan. A red box highlights the execution plan entry: `TABLE ACCESS (BY INDEX ROWID) OF 'DEPT' (Cost=1 Card=5 Bytes=90)`. A red arrow points from this entry to a secondary window titled "DEPT 테이블 정보" (DEPT Table Information).

The "DEPT 테이블 정보" window displays the following table statistics:

- Rows-5
- Empty Blocks-6
- Chain Count-0
- Avg Space Freelist Blocks-7,975
- Sample Size-5
- Partitioned=NO
- Blocks-1
- Avg Space-7,975
- Avg Row Length-23
- Freelist Blocks-1
- Last Analyze=2004/05/18

The window also displays the table structure:

Column Name	Nullable	Column Type	Distinct	Bucket
DEPTNO	NOT NULL	NUMBER(2)	5	
DNAME		VARCHAR2(14)	5	
LOC		VARCHAR2(13)	5	

Below the table structure, the primary key information is shown:

INDEX  
PK\_DEPT : DEPTNO  
Type=NORMAL, Uniq=YES, Distinct=5, Rows=5, Last Analyze=2004/05/18

The main window also shows the SQL query:

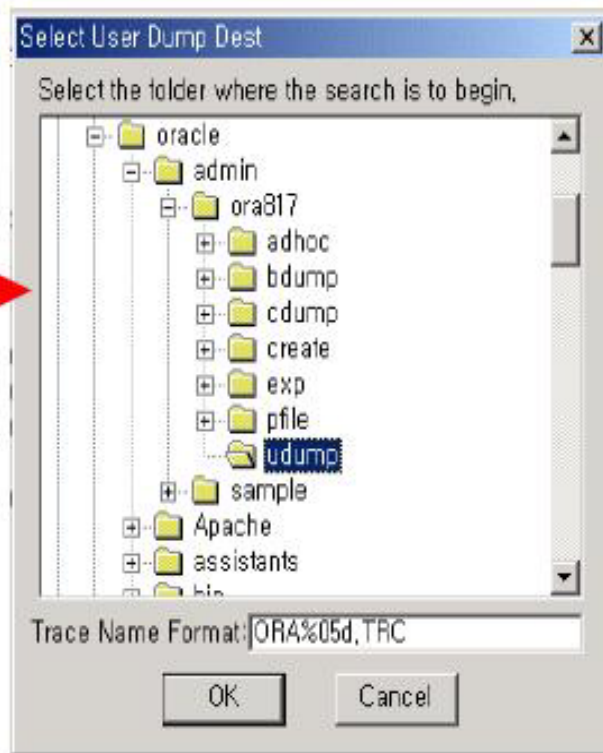
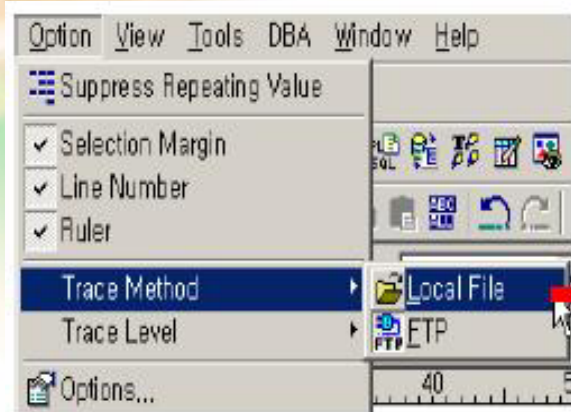
```
1 select *
2 from emp e, dept d
3 where e.deptno = d.deptno
4 and e.empno = 7369
```



# PLAN Tool

ORACLE APPLICATION DEVELOPMENT &  
PERFORMANCE MANAGEMENT TOOL

Orange  
for ORACLE



- DBMS가 **Local**인 경우
- **udump** 폴더가 공유
- 원격 파일 시스템 접근 가능

# PLAN Tool

ORACLE APPLICATION DEVELOPMENT &  
PERFORMANCE MANAGEMENT TOOL



The screenshot shows the Orange tool interface with a SQL query and its execution trace. The query is:

```
1 select *
2 from emp e, dept d
3 where e.deptno = d.deptno
4 and e.empno = 7369
```

The trace results are as follows:

Call	Count	CPU Time	Elapsed Time	Disk	Query	Current	Rows
Parse	1	0.00	0.00	0	0	0	0
Execute	1	0.00	0.00	0	0	0	0
Fetch	2	0.01	0.02	2	4	0	1
Total	4	0.01	0.02	2	4	0	1

Elapsed Time for Client(sec.): 0.02  
Misses in library cache during parse: 1  
Optimizer goal: RULE  
Parsing user: SCOTT (10=20)

Rows	Row Source Operation
0	STATEMENT
1	NESTED LOOPS
1	TABLE ACCESS BY INDEX ROWID EMP
1	INDEX UNIQUE SCAN OF PK_EMP (UNIQUE)
1	TABLE ACCESS BY INDEX ROWID DEPT
1	INDEX UNIQUE SCAN OF PK_DEPT (UNIQUE)

Trace 결과 탭



# Trace Tool

ORACLE APPLICATION DEVELOPMENT &  
PERFORMANCE MANAGEMENT TOOL

Orange  
for ORACLE



Orange - [SQL Trace Mew:SCOTT@HP817]

Trace

- Local Trace
- FTP Trace
- Refresh Trace
- Cancel Work

FTP Login Information

Server Name: 192.168.100.201

User Name: oracle8i

Password: \*\*\*\*\*

Port #: 21

Passive Mode

OK Cancel

FTP Browser

Current Directory : /home/oracle8i/admin/ORA816/udump

File Name	Size	Date	Owner	Permission
.	49,152	2002/10/02 01:33	oracle8i	drwxr-xr-x
..	4,096	2002/03/29 00:00	oracle8i	drwxr-xr-x
ora_22816.trc	4,096	2002/04/25 06:48	oracle8i	drwxr-xr-x
trace	4,096	2002/01/18 00:00	oracle8i	drwxr-xr-x
a.trc	389,170	2002/05/06 01:25	oracle8i	-rwxr--
a.txt	20,284	2002/03/28 00:00	oracle8i	-rwxr--
export.dmp	372,482,....	2002/04/25 13:11	oracle8i	-rwxr--
ora_10009.trc	599	2002/08/28 08:57	oracle8i	-rwxr--
ora_10070.trc	571	2002/08/28 09:07	oracle8i	-rwxr--
ora_10097.trc	599	2002/08/28 09:14	oracle8i	-rwxr--
ora_10350.trc	4,904	2002/08/02 19:14	oracle8i	-rwxr--
ora_10429.trc	3,693	2002/08/05 03:33	oracle8i	-rwxr--
ora_11276.trc	2,884	2002/07/26 11:12	oracle8i	-rwxr--
ora_11311.trc	2,884	2002/07/26 11:14	oracle8i	-rwxr--
ora_11423.trc	1,728	2002/09/30 05:28	oracle8i	-rwxr--
ora_11683.trc	5,525	2002/04/09 00:00	oracle8i	-rwxr--
ora_11753.trc	586	2002/08/01 07:31	oracle8i	-rwxr--
ora_11771.trc	613	2002/08/01 07:33	oracle8i	-rwxr--
ora_11887.trc	600	2002/06/24 09:58	oracle8i	-rwxr--
ora_11916.trc	599	2002/06/24 10:00	oracle8i	-rwxr--

Open Remote Trace File via FTP

# Trace Tool

ORACLE APPLICATION DEVELOPMENT &  
PERFORMANCE MANAGEMENT TOOL



Creation file : 2002/04/23 17:45:00  
Trace file : C:\oracle\ADMIN\ORADUMP\ORAD1248.TRC

select \* from users where rownum < 100

Phase	Count	Elapse Time	Elapsed Time	Disk	Query	Current	Rows
10 Parse	1	0.01	0.10	0	0	0	0
11 Execute	1	0.00	0.00	0	0	0	0
12 Fetch	11	0.05	0.00	0	16	12	91
13							
14 Total	10	0.06	0.25	0	16	12	91
15							
16 Elapsed time for Client(sec.): 0.51							
17 Misses in library cache during parse: 0							
18 Optimizer goal: CHOICE							
19 Parsing user: JOANN (10-AN)							
20							
Rows	Row Source Operation						
23	1 STATEMENT						
24	99 COUNT STOPKEY						
25	99 TABLE ACCESS FULL USERS						
Wait Event Name	Time(sec)	Count					
27 SQL*Net message to client	0.00	11					
28 SQL*Net message from client	0.03	11					
31 SQL*Net more data to client	0.00	1					
32							
33 Total	0.03	23					
34							

트레이스 생성 정보

실행 SQL 문

SQL 수행 통계 정보

SQL 실행 계획

Wait 발생 내역

# Trace Tool \_

ORACLE APPLICATION DEVELOPMENT &  
PERFORMANCE MANAGEMENT TOOL



Parse > 1	SQL
Parse=Execute=Fetch	rows
Parse=1, Execute=Fetch=10	SQL 10 :select... into...
Parse=Execute=1, Fetch=10	SQL 10
Fetch=10, Rows=200	20 Array Processing
CPU Elapsed	,
Rows CPU	(SQL )
rows	SQL
disk, query, current	

# SQL Monitor

ORACLE APPLICATION DEVELOPMENT & PERFORMANCE MANAGEMENT TOOL



Orange - [SQL Monitor<SCOTT@YHGORA>]

File Action Option View Tools DBA Window Help

SQL Edit SQLMon

SCOTT@YHGORA

Criteria

- Buffer Gets  $\geq$  10000
- Buffer Gets/Exec
- Executions
- Disk Reads
- Elapsed Time/Exec (9i or above)
- Include SYS User's
- Include SYSTEM User's SQL

SQL Filter

Include

Sort

- Sort 1: Buff
- Sort 2:
- Sort 3:
- Sort 4:
- Sort 5:

I/O가 가 SQL

SQL

# SQL Monitor

ORACLE APPLICATION DEVELOPMENT &  
PERFORMANCE MANAGEMENT TOOL

Orange  
for ORACLE



Orange - [SQL Monitor<SYS@HP817>]

File Action Option View Tools DBA Window Help

SQLMon SQL SessList PL/SQL

SYS@HP817

Criteria

- Buffer Gets
- Buffer Gets/Exec
- Executions
- Disk Reads
- Include SYS User's SQL
- Include SYSTEM User's SQL

User	Buffer Gets	Executions	Ratio	Disk Reads	Rows
1 SCOTT					0

Find...  
Select All  
Copy  
Copy As HTML Syntax  
Copy/Save with Header  
Copy/Save with Line Number  
Print Setup...  
Print Grid...  
Save/Show grid as a excel file...  
Save Grid...  
Fix Column  
UnFix Column  
Refresh Top SQL List F5  
Cancel Operation Ctrl+Break  
**Explain Plan**  
Sessions Using This SQL  
Options...

Orange - [Plan Tool:SYS@HP817/]

File Edit Action Option View Tools DBA Window Help

SQLMon SQL SessList PL/SQL Plan

4 - SYS@HP817

Parsing Schema: SCOTT Refresh Optimizer Mode: <DEFAULT>

Original

```
1 select * from emp where empno > 1000
```

Plan Plan Plan Schema Trace Result

- SELECT STATEMENT Optimizer=CHOOSE
  - TABLE ACCESS (FULL) OF 'SCOTT.EMP' (Cost=1 Card=14 Bytes=448)



# Session Monitor

ORACLE APPLICATION DEVELOPMENT &  
PERFORMANCE MANAGEMENT TOOL



The screenshot shows the Oracle Session Monitor interface. The main window displays a table of active sessions. The selected session (SID 81, Serial# 269) is highlighted in blue. Below the table, a text box contains the label "Session List". At the bottom, a SQL query is displayed in a text area, with a text box below it containing the Korean text "해당 세션이 사용했던 Current SQL".

UserName	SID	Serial#	SPID	O/S User	Command	Status	Event	Machine	N
SYS	76	365	14675	pjlee	UNKNOWN	INACTIVE	SQL+Net m...	ORSOLUTIONS\WPJLEE	0
SYS	83	236	14714	pjlee	UNKNOWN	INACTIVE	SQL+Net m...	ORSOLUTIONS\WPJLEE	0
SYS	82	32	14691	pjlee	UNKNOWN	INACTIVE	SQL+Net m...	ORSOLUTIONS\WPJLEE	0
SYS	81	269	16501	jhhwang	SELECT	ACTIVE	SQL+Net m...	WAREVALLEY\WJHHW...	0
SYS	77	57	16458	jhhwang	UNKNOWN	INACTIVE	SQL+Net m...	WAREVALLEY\WJHHW...	0
SYS	84	67	14698	pjlee	UNKNOWN	INACTIVE	SQL+Net m...	ORSOLUTIONS\WPJLEE	0
SYS	86	120	14967	pjlee	UNKNOWN	INACTIVE	SQL+Net m...	ORSOLUTIONS\WPJLEE	0
SCOTT	42	1060	14045	jhhwang	UNKNOWN	INACTIVE	SQL+Net m...	WAREVALLEY\WJHHW...	0

Session List

```
SELECT /*+ ordered use_hash(s t) */ sql_text FROM v$session s, v$sqltext_with_newlines t WHERE s.sid = :sid AND s.serial# = :serial AND s.sql_address = t.address AND s.sql_hash_value = t.hash_value ORDER BY piece
```

해당 세션이 사용했던 Current SQL

Total:0 Active:1

# Session Monitor

ORACLE APPLICATION DEVELOPMENT &  
PERFORMANCE MANAGEMENT TOOL

Orange  
for ORACLE

The screenshot displays the Orange Session Monitor interface. The main window shows a table of active sessions. The 'SCOTT' session is highlighted with a red box, and a red arrow points to the 'SQL Trace' menu option in the context menu.

UserName	SID	Serial#	SPID	O/S User	Command	Status
SYS	77	57	16458	jhhwang	UNKNOWN	INACTIVE
SYS	81	271	16523	jhhwang	SELECT	ACTIVE
SCOTT	42	1060	14045	jhhwang		

The context menu for the SCOTT session includes the following options:

- Refresh List
- Auto Refresh
- Copy List
- Delta Mode Display  
Display Background Session
- Session Information  
on Current SQL
- Kill Session
- SQL Trace
  - Level 1 - Default
  - Level 4 - Bind Values
  - Level 6 - Waits
  - Level 12 - Bind Values And Waits
- SQL Trace Off
- Options...

# Session Monitor

ORACLE APPLICATION DEVELOPMENT &  
PERFORMANCE MANAGEMENT TOOL



Orange - [Session Monitor<SYS@HP817>]

File Action Option View Tools DBA Window Help

SessMon

SYS@HP817

UserName	SID	Serial#	SPID	O/S
SYS	77	57	16458	jhhwa
SYS	81	271	16523	jhhwa
SCOTT	42	1060	14045	hhwa

Trace Tool : FTP

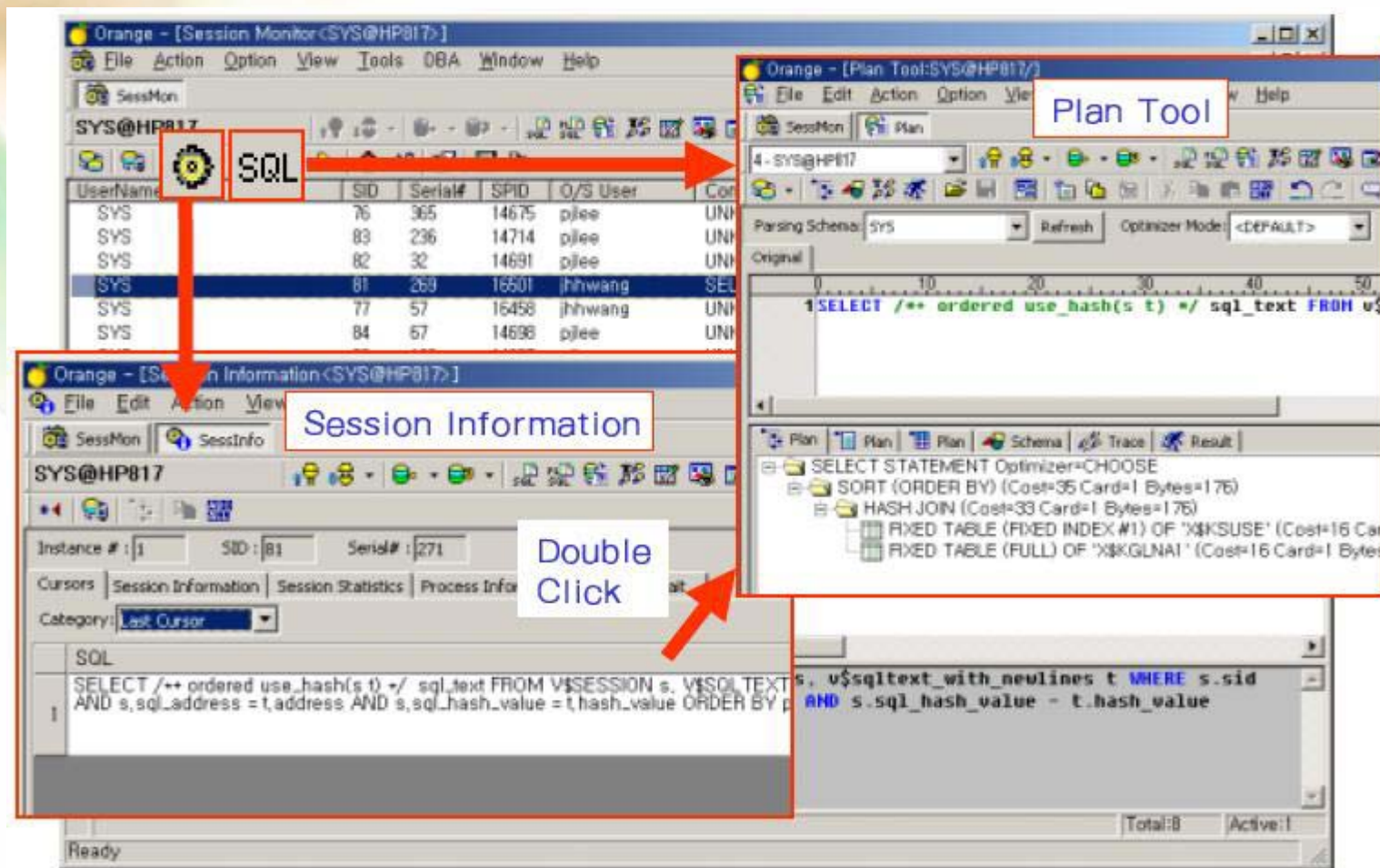
FTP Browser

Current Directory :  
/oracle/oracle3i/admin/ORAS17/udump

File Name	Size	Date	Owner
.	2,048	2004/06/22 16:36	oracle8i
..	2,048	2004/03/10 18:08	oracle8i
ora_11851_ora817.trc	71,008,337	2004/05/31 21:04	oracle8i
ora_14045_ora817.trc	4,739	2004/06/23 11:35	oracle8i
ora_14996_ora817.trc	567	2004/06/02 10:35	oracle8i
ora_15939_ora817.trc	606	2004/06/15 14:46	oracle8i
ora_19706_ora817.trc	10,521	2004/06/04 11:40	oracle8i
ora_2047_ora817.trc	2,771	2004/06/09 15:17	oracle8i
ora_2049_ora817.trc	2,181	2004/06/09 15:17	oracle8i
ora_2076_ora817.trc	157,352	2004/06/09 15:32	oracle8i
ora_21842_ora817.trc	332,871	2004/05/21 21:20	oracle8i
ora_24159_ora817.trc	4,873	2004/05/25 11:25	oracle8i
ora_24459_ora817.trc	3,918	2004/05/25 13:19	oracle8i
ora_24462_ora817.trc	10,059	2004/05/25 13:21	oracle8i
ora_25394_ora817.trc	1,945	2004/05/25 16:14	oracle8i
ora_2583_ora817.trc	565	2004/04/20 10:50	oracle8i
ora_2660_ora817.trc	6,028	2004/05/13 15:00	oracle8i
ora_2918_ora817.trc	140,104	2004/05/13 15:17	oracle8i
ora_29286_ora817.trc	567	2004/06/08 13:45	oracle8i



# Session Monitor



The image shows a workflow in the Oracle Session Monitor tool. It starts with a table of sessions, where a gear icon and the text 'SQL' are highlighted. An arrow points from this area to a 'Session Information' window. From there, another arrow points to a 'Plan Tool' window. A 'Double Click' label with an arrow points to the SQL text in the Session Information window, which is then shown in the Plan Tool window.

UserName	SID	Serial#	SPID	O/S User	Co
SYS	76	365	14675	pjee	UNI
SYS	83	236	14714	pjee	UNI
SYS	82	32	14691	pjee	UNI
SYS	81	269	16501	jhwwang	SEL
SYS	77	57	16458	jhwwang	UNI
SYS	84	67	14698	pjee	UNI

Plan Tool

```
1 SELECT /*+ ordered use_hash(s t) */ sql_text FROM v$session s, v$sql_text t WHERE s.sid = t.sid AND s.sql_address = t.address AND s.sql_hash_value = t.hash_value ORDER BY p
```

Session Information

Double Click

```
SELECT /*+ ordered use_hash(s t) */ sql_text FROM v$session s, v$sql_text t WHERE s.sid = t.sid AND s.sql_address = t.address AND s.sql_hash_value = t.hash_value ORDER BY p
```

# Analyzer

ORACLE APPLICATION DEVELOPMENT &  
PERFORMANCE MANAGEMENT TOOL



Orange - [Analyze Manager<SCOTT@YHGORA>]

File View Tools DBA Window Help

Analyze

SCOTT@YHGORA

Schema: SCOTT

Analyzing Scope

- All objects in this schema
- Objects which have been analyzed
- Objects Elapsed  days or more since last analysis
- Objects which are not analyzed yet

SCOTT

- Tables
- Indexes
- Clusters

Analyze Type

- Compute statistics
- Estimate statistics
- Auto-Determine Compute/Estimate
- Delete statistics
- Validate Ref Update
- Validate Structure
- List Chained Rows

Sample

Rows  
 %

Set Dangling To Null  
 Cascade  
 Into Table

For (Tables Only)

- Table
- All Columns
- All Indexed Columns
- All Indexes
- All Local Indexes

Histogram (Columns only)

Bucket Size

Parallel Analyze (8 or above, Tables Only)

Parallel Degree

Analyze Output | All Statistics Information

# Analyzer

ORACLE APPLICATION DEVELOPMENT &  
PERFORMANCE MANAGEMENT TOOL



Analyze Type

- Compute statistics
- Estimate statistics
- Auto-Determine Compute/Estimate Setting...
- Delete statistics
- Validate Ref Update
- Validate Structure
- List Chained Rows

Sample

1064  Rows  %

- Set Dangling To Null
- Cascade
- Into Table

- Compute Statistics
  -
- Estimate Statistics
  -
- Validate Ref update
  - Ref
- Validate Structure
  - , , , Ref
- List Chained Rows
  - Chained, Migrated
  - Row

A. Cost-based

가

Rule-based

.

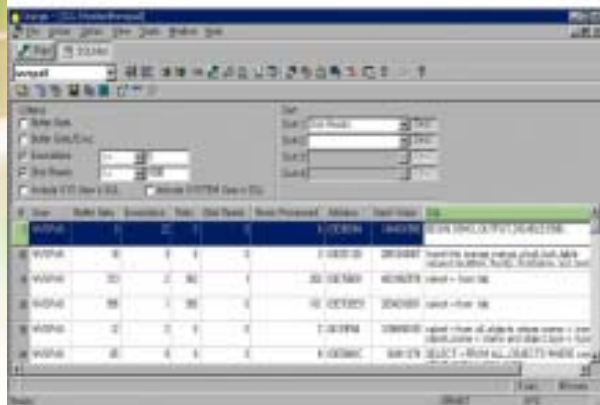
B.

,

Rule-based

.

## ■ SQL Monitor



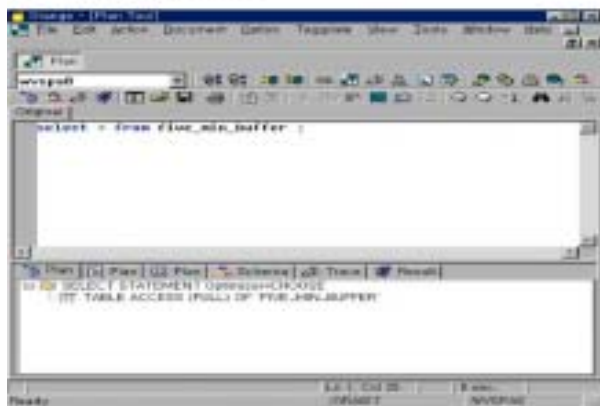
악성 SQL



## ■ Session List Using SQL



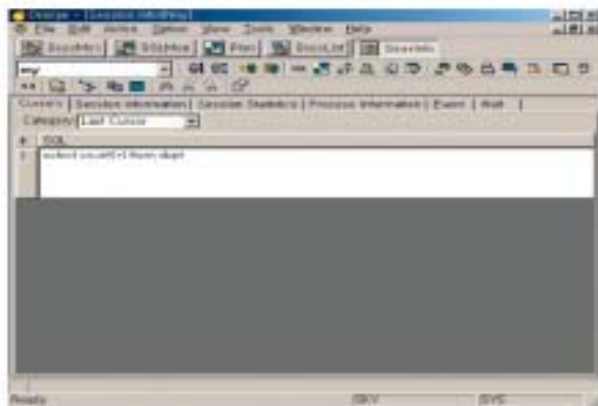
## ■ Plan Tool



비효율성 분석  
성능 개선  
Tuning



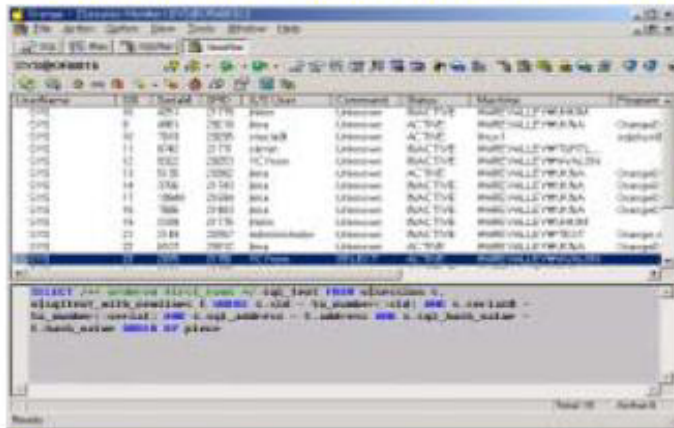
## ■ Session Information



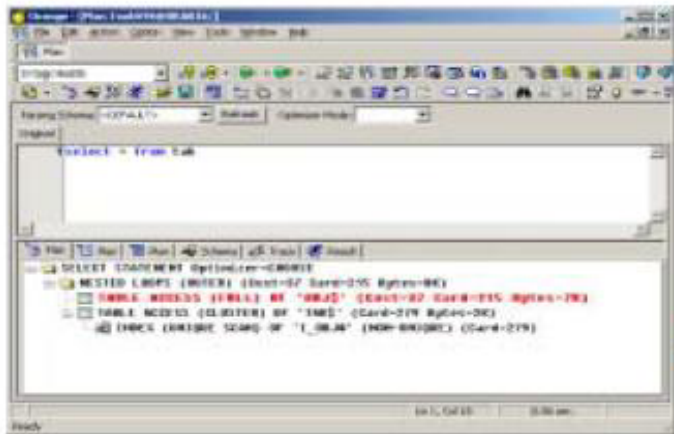


## ■ Session/Transaction/Lock/Latch Monitor

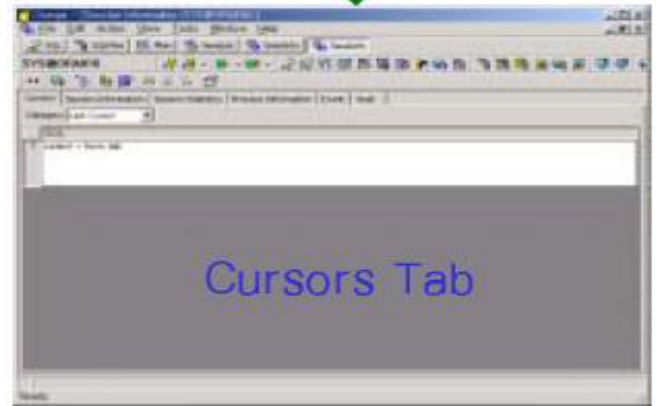
문제 세션 검출  
문제 Transaction 검출  
Lock/Latch 분석



SID	Serial#	SPID	OS User	Comment	State	Machine	Program
10	2674	2776	SYSTEM	Logon	ACTIVE	ORACLE11G-R2-1133	Oracle
9	4951	2679	sys	Logon	ACTIVE	ORACLE11G-R2-1133	Oracle
11	6742	2775	sysdba	Logon	ACTIVE	ORACLE11G-R2-1133	Oracle
12	8222	2823	scott	Logon	ACTIVE	ORACLE11G-R2-1133	Oracle
13	5135	2292	sys	Logon	ACTIVE	ORACLE11G-R2-1133	Oracle
14	3766	2743	sys	Logon	ACTIVE	ORACLE11G-R2-1133	Oracle
15	11049	2749	sys	Logon	ACTIVE	ORACLE11G-R2-1133	Oracle
16	788	2783	sys	Logon	ACTIVE	ORACLE11G-R2-1133	Oracle
17	2288	2775	sys	Logon	ACTIVE	ORACLE11G-R2-1133	Oracle
22	3388	2887	scott	Logon	ACTIVE	ORACLE11G-R2-1133	Oracle
23	3023	2872	sys	Logon	ACTIVE	ORACLE11G-R2-1133	Oracle



```
SELECT TRANSACTION_OPTION=ORACLE
NESTED LOOPS (N=1) (Cost=27 Size=25 Bytes=86)
  TABLE ACCESS (N=1) OF "TABLE" (Card=27 Bytes=274)
    INDEX (N=1) OF "TABLE" (Card=27 Bytes=274)
```



문제 분석  
성능 개선  
튜닝

ORACLE APPLICATION DEVELOPMENT &  
PERFORMANCE MANAGEMENT TOOL

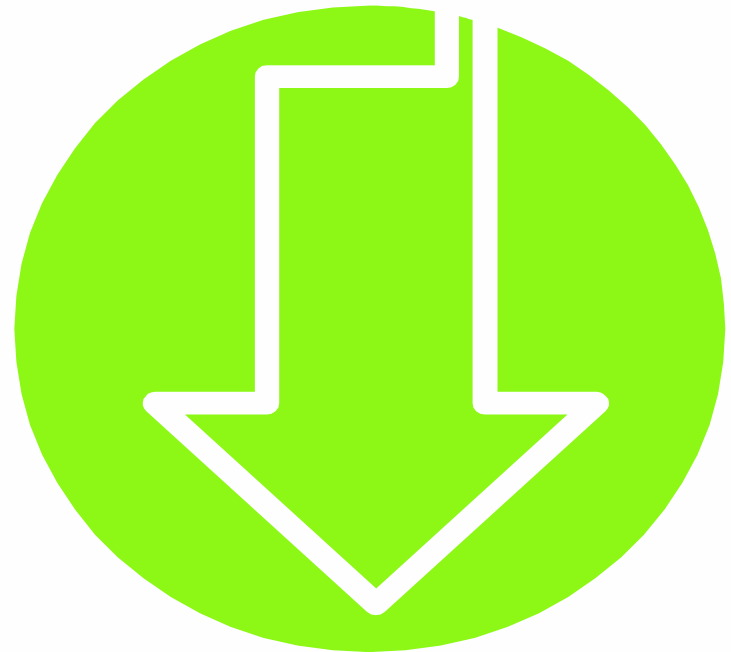


4.0



Reorg

50 %



2007. 5. 2 ~ 2007. 6. 30





Standard

5

DBA

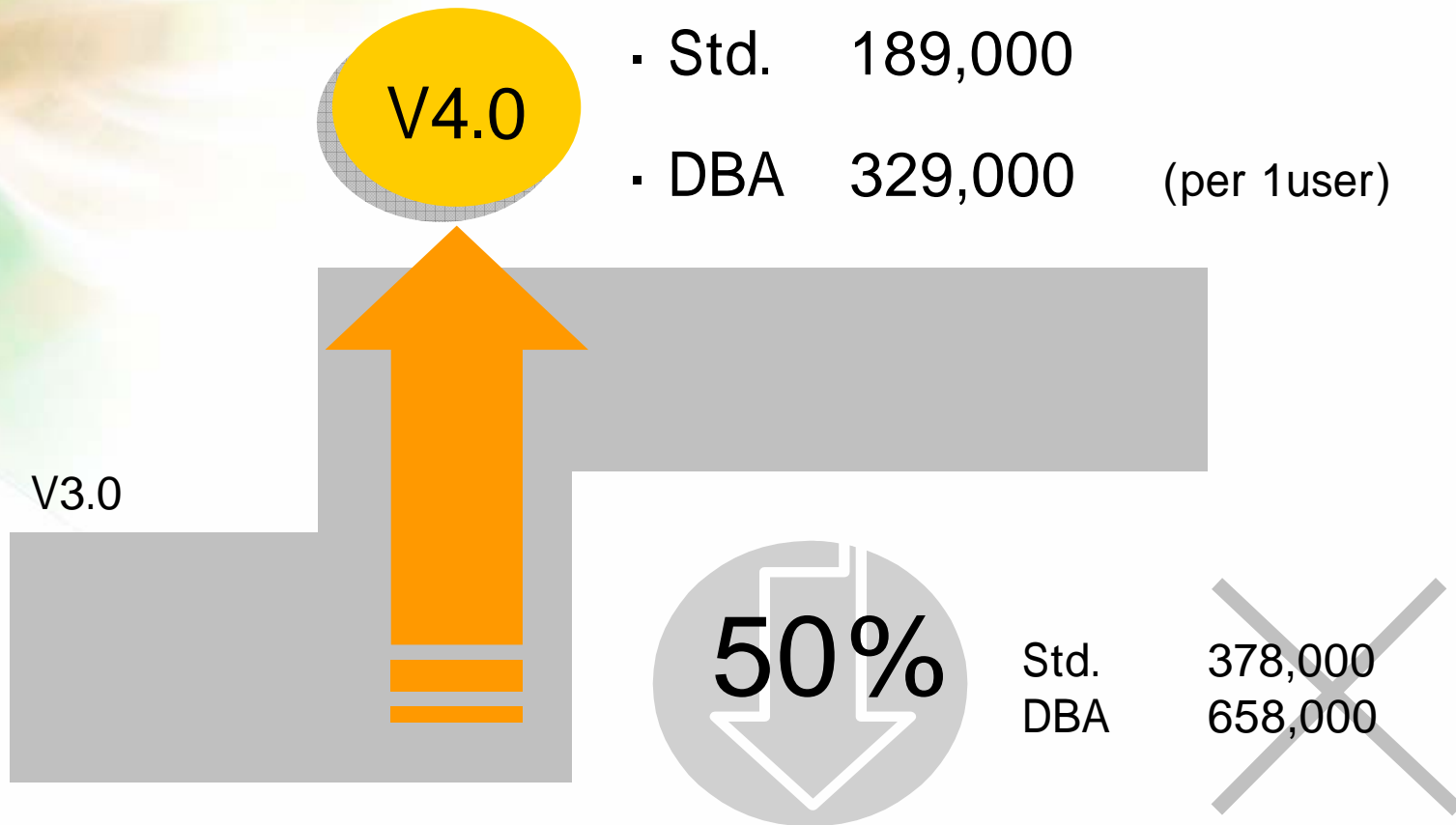
10

Reorg

20

(per 1user)





# USB

ORACLE APPLICATION DEVELOPMENT &  
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## Strengthen The Power of Your Oracle Database

ORACLE APPLICATION DEVELOPMENT &  
PERFORMANCE MANAGEMENT TOOL



일 맛 나는 오렌지 4.0

일 2007년 5월 7일 (수) 10:00 - 16:00  
장소: 서울 강남구 테헤란로 12길 10, 10층  
문의: 02-707-1838 (내선 208)

주최: Oracle

주관:

Woori  
Valley

### 일 맛 나는 오렌지

오렌지 구매시 본 부문을 제시하는 분께 **USB 2GB** 를 드립니다.

회사: \_\_\_\_\_

이름: \_\_\_\_\_

전화: \_\_\_\_\_

기간: 2007, 5, 7 ~ 2007, 6, 30

