

Analyzing (explain) Query Performance

Only in DbVisualizer Pro

 This feature is only available in the DbVisualizer Pro edition.

You can analyze how a query is executed by the database, e.g. whether indexes are used or if the database has to do an expensive full scan. To analyze a query:

1. Enter the query in the **SQL Commander** editor,
2. Click **Execute Explain Plan** button in the toolbar,
3. Look at the result in the results area.

Explain Plan is supported for DB2 LUW, H2, JavaDB/Derby, Mimer SQL, MySQL, Netezza, NuoDB, Oracle, PostgreSQL, Amazon Redshift, SQLite, Microsoft SQL Server and Vertica. The available presentations options vary per database as shown in this table.

Database	Graph Format	Tree Format	Text Format	Node Cost Coloring (Graph and Tree only)
DB2 LUW	✓	✓		✓
H2			✓	
JavaDB/Derby			✓	
Mimer SQL	✓	✓		✓
MySQL	✓	✓	✓	✓
Netezza			✓	
NuoDB			✓	
Oracle	✓	✓	✓	✓
PostgreSQL	✓	✓	✓	✓
Amazon Redshift			✓	
SQLite			✓	
Microsoft SQL Server	✓	✓		✓
Vertica			✓	

Explain Plan executes your query and records the plan that the database devises to execute it. By examining this plan, you can find out if the database is picking the right indexes and joining your tables in the most efficient manner. The explain plan feature works much the same as executing SQLs to present result sets; you may highlight statements, run a script or load from file. The explain plan results can easily be compared by pinning the tabs for different runs.

DbVisualizer presents the plan either in a tree style format or in a graph, or in a simple text format. What information is shown depends on the database you use. In the tree view, put the mouse pointer on the column header for a tooltip description what that column represents. The following screenshot shows the SQL in the editor at top and the corresponding explain plan as the result.

```

1 SELECT
2   d.DEPARTMENT_NAME,
3   l.CITY,
4   c.COUNTRY_NAME,
5   r.REGION_NAME
6 FROM
7   HR.DEPARTMENTS d,
8   HR.LOCATIONS l,
9   HR.COUNTRIES c,
10  HR.REGIONS r
11 WHERE
12  d.LOCATION_ID = l.LOCATION_ID
13 AND l.COUNTRY_ID = c.COUNTRY_ID
14 AND c.REGION_ID = r.REGION_ID
15 AND d.MANAGER_ID IN
16   (
17     SELECT
18       EMPLOYEE_ID
19     FROM
20       HR.EMPLOYEES
21     WHERE
22       FIRST_NAME LIKE 'A%')

```

5:18 [80] INS Auto Commit: ON Cp1252 Untitled*

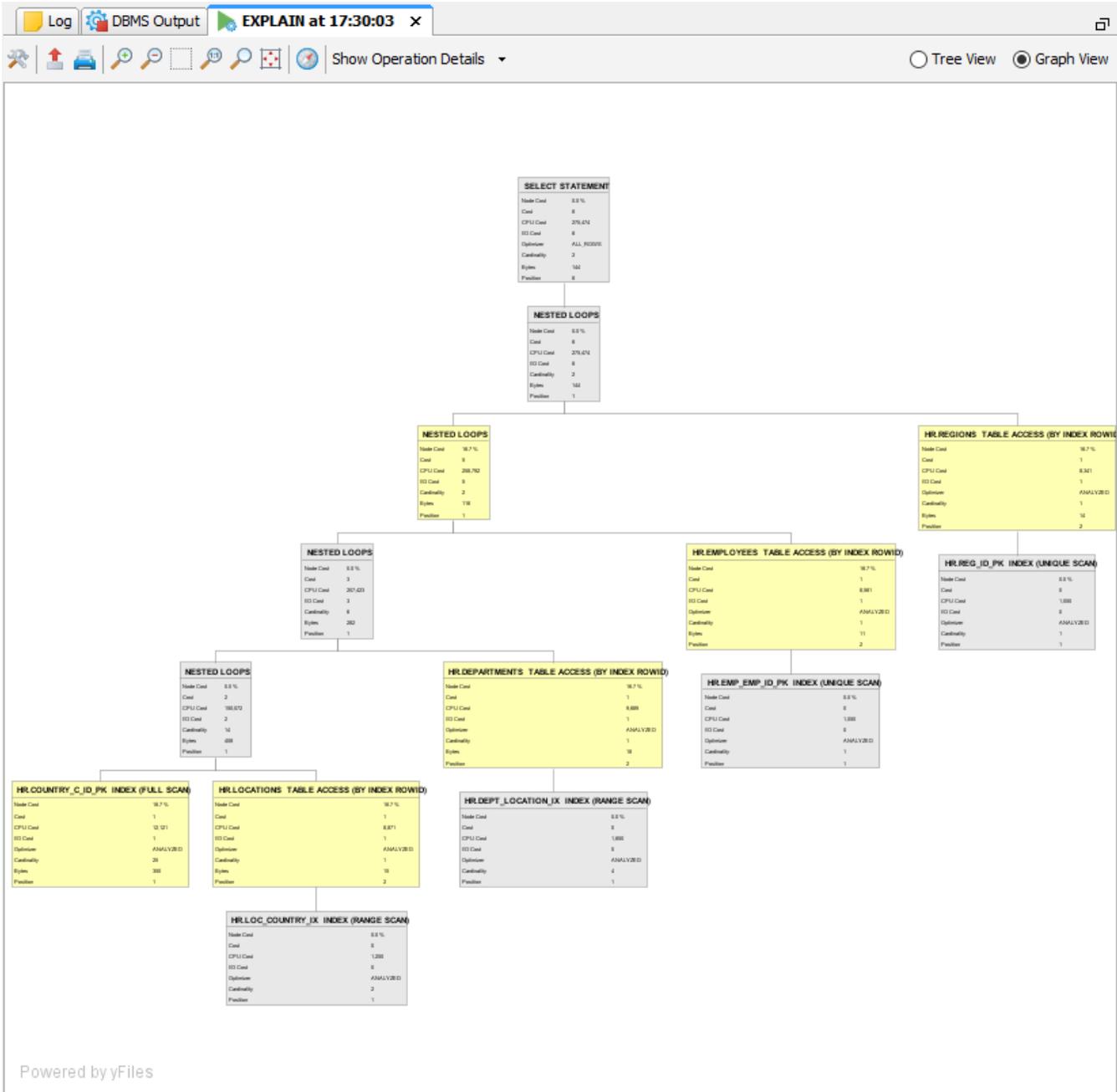
Log DBMS Output **EXPLAIN at 17:30:03** x

Tree View Graph View

Operation	Node Cost	Cost	CPU Cost	I/O Cost	Optimizer	Cardinality	Bytes
SELECT STATEMENT	0.0 %	6	275,474	6 ALL_ROWS		2	14
NESTED LOOPS	0.0 %	6	275,474	6		2	14
NESTED LOOPS	16.7 %	5	258,792	5		2	11
NESTED LOOPS	0.0 %	3	207,423	3		6	28
NESTED LOOPS	0.0 %	2	150,072	2		14	40
HR.COUNTRY_C_ID_PK INDEX (FULL SCAN)	16.7 %	1	12,121	1 ANALYZED		25	35
HR.LOCATIONS TABLE ACCESS (BY INDEX ROWID)	16.7 %	1	8,871	1 ANALYZED		1	1
HR.LOC_COUNTRY_IX INDEX (RANGE SCAN)	0.0 %	0	1,250	0 ANALYZED		2	
HR.DEPARTMENTS TABLE ACCESS (BY INDEX ROWID)	16.7 %	1	9,689	1 ANALYZED		1	1
HR.DEPT_LOCATION_IX INDEX (RANGE SCAN)	0.0 %	0	1,650	0 ANALYZED		4	
HR.EMPLOYEES TABLE ACCESS (BY INDEX ROWID)	16.7 %	1	8,561	1 ANALYZED		1	1

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The Graph View shows the plan as a graph. The graph can be exported to an image file or printed. Use the menubar buttons to export and print.



The databases use different techniques to manage their explain plan support. You can make database-specific configurations in the **Properties** tab for a connection, in the **Explain Plan** category.