

Date:18.02.2022

Third Year B. Tech., Sem VI 2021-22

Advanced Database System Lab

Assignment submission

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Batch: T2

Assignment: 6

**Title of assignment: Performance Tuning for Assignment No.
4 & 5**

Do the performance tuning for Assignment No.4 & 5.

Hints:

1. Use the standard performance metrics and tabulate the results
2. Use any open-source tools / Oracle Explain Plan etc.
3. Prepare the benchmark report

Ans:

Title:

Performance Tuning

Objective:

Perform performance tuning for Assignment No. 4 &5

Introduction & Theory:

- Database performance tuning is a broad term referring to the ways database administrators can ensure databases are running as efficiently as possible.
- DBMS tuning typically refers to tuning queries for popular database management systems like MySQL or Oracle.
- Database tuning helps re-optimize a database system from top to bottom, from software to hardware, to improve overall performance.
- The Oracle Server is a sophisticated and highly tuneable software product. Its flexibility allows you to make small adjustments that affect database performance.
- By tuning your system, you can tailor its performance to best meet your needs.

Procedure / Experiment:

Indices

Server: 127.0.0.1 • Database: walchand_college

Filters

Containing the word:

Table	Action	Rows	Type	Collation	Size	Overhead
<input type="checkbox"/> class_result		39	InnoDB	latin1_swedish_ci	16.0 KiB	-
<input type="checkbox"/> courses		9	InnoDB	latin1_swedish_ci	16.0 KiB	-
<input type="checkbox"/> course_subjects		11	InnoDB	latin1_swedish_ci	16.0 KiB	-
<input type="checkbox"/> login		3	InnoDB	latin1_swedish_ci	16.0 KiB	-
<input type="checkbox"/> mytable		5	InnoDB	latin1_swedish_ci	16.0 KiB	-
<input type="checkbox"/> sessions		1	InnoDB	latin1_swedish_ci	16.0 KiB	-
<input type="checkbox"/> student_attendance		8	InnoDB	latin1_swedish_ci	16.0 KiB	-
<input type="checkbox"/> student_courses		5	InnoDB	latin1_swedish_ci	16.0 KiB	-
<input type="checkbox"/> student_fee		2	InnoDB	latin1_swedish_ci	32.0 KiB	-
<input type="checkbox"/> student_info		1	InnoDB	latin1_swedish_ci	16.0 KiB	-
<input type="checkbox"/> teacher_attendance		5	InnoDB	latin1_swedish_ci	16.0 KiB	-
<input type="checkbox"/> teacher_courses		5	InnoDB	latin1_swedish_ci	16.0 KiB	-
<input type="checkbox"/> teacher_info		1	InnoDB	latin1_swedish_ci	16.0 KiB	-
<input type="checkbox"/> teacher_salary_allowances		3	InnoDB	latin1_swedish_ci	16.0 KiB	-
<input type="checkbox"/> teacher_salary_report		30	InnoDB	latin1_swedish_ci	32.0 KiB	-
<input type="checkbox"/> time_table		6	InnoDB	latin1_swedish_ci	16.0 KiB	-
<input type="checkbox"/> weekdays		7	InnoDB	latin1_swedish_ci	16.0 KiB	-
17 tables	Sum	141	InnoDB	utf8mb4_general_ci	320.0 KiB	0 B

☐ Check all With selected:

Print Data dictionary

Create table

Console

Server: 127.0.0.1 • Database: project

Filters

Containing the word:

Table	Action	Rows	Type	Collation	Size	Overhead
<input type="checkbox"/> admin		2	InnoDB	utf8_general_ci	16.0 KiB	-
<input type="checkbox"/> answer		17	InnoDB	utf8_general_ci	16.0 KiB	-
<input type="checkbox"/> feedback		0	InnoDB	utf8_general_ci	16.0 KiB	-
<input type="checkbox"/> history		10	InnoDB	utf8_general_ci	16.0 KiB	-
<input type="checkbox"/> options		69	InnoDB	utf8_general_ci	16.0 KiB	-
<input type="checkbox"/> questions		18	InnoDB	utf8_general_ci	16.0 KiB	-
<input type="checkbox"/> quiz		7	InnoDB	utf8_general_ci	16.0 KiB	-
<input type="checkbox"/> rank		5	InnoDB	utf8_general_ci	16.0 KiB	-
<input type="checkbox"/> user		10	InnoDB	utf8_general_ci	16.0 KiB	-
9 tables	Sum	138	InnoDB	utf8mb4_general_ci	144.0 KiB	0 B

☐ Check all With selected:

Print Data dictionary

Create table

Name: Number of columns: 4

Go

Console

Benchmark Report – Jmeter

View Results in Table

Name: View Results in Table

Comments:

Write results to file / Read from file

Filename: Browse... Log/Display Only: ☐ Errors ☐ Successes

Sample #	Start Time	Thread Name	Label	Sample Time...	Status	Bytes	Sent Bytes	Latency	Connect Time...
1	10:29:23.253	Jmeter 1-1	HTTP Request	4097	Success	5312	238	378	254
2	10:29:48.812	Jmeter 1-1	HTTP Request	704	Success	5309	238	188	85
3	10:29:48.986	Jmeter 1-2	HTTP Request	840	Success	5309	238	231	116
4	10:29:49.518	Jmeter 1-1	HTTP Request	407	Success	5309	238	216	96
5	10:29:49.190	Jmeter 1-3	HTTP Request	748	Success	5309	238	231	117
6	10:29:49.392	Jmeter 1-4	HTTP Request	780	Success	5309	238	236	128
7	10:29:49.927	Jmeter 1-2	HTTP Request	356	Success	5309	238	228	101
8	10:29:49.927	Jmeter 1-1	HTTP Request	406	Success	5309	238	236	96
9	10:29:49.939	Jmeter 1-3	HTTP Request	400	Success	5309	238	226	85
10	10:29:49.583	Jmeter 1-5	HTTP Request	853	Success	5309	238	246	133
11	10:29:50.172	Jmeter 1-4	HTTP Request	468	Success	5309	238	287	161
12	10:29:50.183	Jmeter 1-2	HTTP Request	462	Success	5309	238	283	150
13	10:29:50.334	Jmeter 1-1	HTTP Request	322	Success	5309	238	209	105
14	10:29:50.339	Jmeter 1-3	HTTP Request	331	Success	5309	238	219	107
15	10:29:50.437	Jmeter 1-5	HTTP Request	408	Success	5309	238	211	98
16	10:29:50.641	Jmeter 1-4	HTTP Request	406	Success	5309	238	244	115
17	10:29:50.657	Jmeter 1-1	HTTP Request	499	Success	5309	238	289	112
18	10:29:50.671	Jmeter 1-3	HTTP Request	488	Success	5309	238	276	117
19	10:29:50.646	Jmeter 1-2	HTTP Request	515	Success	5309	238	300	111
20	10:29:50.845	Jmeter 1-5	HTTP Request	342	Success	5309	238	227	101

☒ Scroll automatically? ☐ Child samples? No of Samples: 151 Latest Sample: 0 Average: 196 Deviation: 191

View Results in Table

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Conclusion:

Performed performance tuning for Assignment No. 4 & 5

Reference:

https://en.wikipedia.org/wiki/Performance_tuning