side 1/3

15V

Lektion 6

Tirsdag den 13. september 2016

Litteratur:

[Ramakrishnan] kapitel 20 (til og med 20.10) side 649-671

Emner:

Opgave 5.2 som eksempel

Kort repetition på optimering/optimizer, herunder et eksempel om nonclustered index.

Lille snak om hvordan der går, herunder hvordan vi får et bedre fremmøde.

Databaseperformance

- Hvor meget kan det betale sig at gøre ud af det?
- Hvad er udviklerens ansvar
- Hvilke typer index egner sig til hvad
- Hvordan vælges index hensigtsmæssigt, herunder simpel algoritme for hvordan man selv finder indeks
- Værktøjer til at hjælpe med at finde index
- Performanceovervejelser ved tabel-design
 - Denormalisering
 - Vertikal partitionering
- Optimering af queries
- Optimering i forbindelse med låsning.

Opgaver:

Opgave 6.1, 6.2 og 6.3

Arbejde med afleveringsopgaven

Læsning til næste gang:

[Kifer et al] side 69 - 85 (kun kursorisk) [Bagui og Earp] side 6 – 17 (kun kursorisk)

Erhvervsakademi Århus Datamatikeruddannelsen	Specialisering - databasedel 4.semester TK
	side 2/3

Bemærkninger:

Exercise 6.1

In this exercise you are asked to compare different types of index in different situations.

The three types of index are

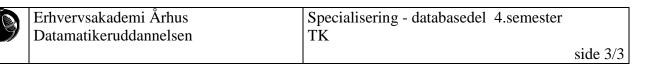
- A clustered tree-based on attribute A
- A nonclustered tree-based on attribute A
- A clustered hash-based on attribute A

We assume, that the hash-function is OK.

The table is named T and the attribute A is not null.

	A clustered tree- based on attribute A	A nonclustered tree-based on attribute A	A clustered hash-based on attribute A
A simple select returning one result			
(select * from T where A = constant)			
A simple select returning a number of			
results			
(select * from T where A = constant)			
A range search			
(select * from T where $A >= constant1$ and			
$A \le constant2$			
A select including an order by on A			
(Ex: Select top 50 * from T order by A)			
An insert			
(insert into T values)			
A delete			
(delete from T where A =)			

The possible answers could be f.ex. very good, good, nearly as good as, better than, index doesn't help,



Exercise 6.2

Du skal i denne øvelse prøve at finde index til en database indeholdende en velkendt kunde-fakturavare-problemstilling for en større salgsvirksomhed. Det præcise tabeldesign er vist i scriptet indexvalg.sql, der kan findes på fronter.

Du skal for de 5 tabeller angive

Hvilken attribut/kombination af attributter skal have et clustered index? Hvilke attributter/kombinationer af attributter skal have et nonclustered index?

Du må selv lave antagelser om relative tabelstørrelser og funktionaliteter ud fra dine forventninger til en større salgsvirksomhed. Det afgørende her er, at de index du foreslår, hænger sammen med dine antagelser.

Exercise 6.3

This exercise is about overall performance in databases. You are asked to fill in your suggestions to things that can help the performance. You are for all the suggestions also asked to answer:

- If it is easy to do after the implementation
- If it is the developer or the DBA/systemadministrator, who is responsible for doing it

Technic (what can we do)	Easy to do after implementation	Developer	DBA or System- admin.