TDT4225 Very Large, Distributed Data Volumes

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Kunnskap for en bedre verden

NTNU

Info

- Lecturer:
  - Svein Erik Bratsberg, Drivhuset, IT-syd, email: sveinbra@ntnu.no
  - Theodoros Chondrogiannis, room 251, Gamle Fysikk, theodoros.chondrogiannis@ntnu.no
- Lectures:
  - Thursdays 10.15-12.00, 5001 (Fiberbygget)
- Exercises: Martin Olderskog, Jakob Opland, Edvard Schøyen
  - Time for guidance. Fridays 13.15-14.00, 5001 (Fiberbygget). Starting 12. Sep.
- Ed as a discussion forum, see Blackboard
- Exam: 17. Dec 2025. (9am-12am) Normal university exam (Inspera) 50 %
  Permitted examination support material: D – No written and handwritten examination support materials are permitted. A specified, simple calculator is permitted.
- Exercises:
  - 2 with evaluation/grades (25 % each)
  - 2 compulsory.
- Partial evaluations (delvurderinger)

Curriculumn (1)

- Martin Kleppmann: Designing Data-Intensive Applications: The Big Ideas Behind Reliable, Scalable, and Maintainable Systems, 2017

  - Chap 1-9. (383 pp).

- Håvard Dybvik: Evaluating the potential of LSM-trees to supersede B-trees in databases, 2017

  - Chapter 2.1 - 2.9 Survey of Storage, Indexing, and Database (31 pp)

- George Coulouris et al: Distributed Systems - Concepts and Design

  - Chapter 14 Time and global states (44 pp).

Curriculumn (2)

- What Goes Around Comes Around... And Around..., Stonebraker/Pavlo, 2024, (17 pp)
- Theodoros 1
- Theodoros 2
- Theodoros 3

Lecture plan, temporary

Date	Time and space	Theme
21. Aug	10.15-12-00, 5001	Intro + Djupvik
28. Aug	10.15-12.00, 5001	Kleppmann chap 1 and 2
4. Sep	10.15-12.00, 5001	Kleppmann chap 3 and 4
11. Sep	10.15-12.00, 5001	Kleppmann chap 5
18. Sep	10.15-12.00, 5001	Kleppmann chap 6 and 7
25. Sep	10.15-12.00, 5001	Kleppmann chap 7 and 8
2. Oct	10.15-12.00, 5001	Kleppmann chap 9
9. Oct	10.15-12.00, 5001	Coulouris chap 14
16. Oct	10.15-12.00, 5001	Theodoros 1
23. Oct	10.15-12.00, 5001	Theodoros 2
30. Oct 6. Nov	10.15-12.00, 5001 10.15-12.00, 5001	Theodoros 3 What goes around comes around .. And around

Exercises

- Compulsory. All 4 must be approved. Ex 2 and 3 are done in groups of up to 3.

- Exercise 1: Theory - SSDs, LSM-trees and Kleppmann stuff (26 Sep)

- Exercise 2: Programming - MySQL (10 Oct) (25 % eval)

- Exercise 3: Programming - MongoDB (31 Oct) (25 % eval)

- Exercise 4: Theory - Kleppmann stuff, Coulouris stuff and other papers (14 Nov)

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Who are you?

- According to Fagpersonweb (19 Aug): 241
  - Datateknikk 65
  - Indøk 57
  - Informatikk 46
  - ERASMUS 41
  - I&IKT 14
  - Kyb 3
  - Others 15