👉 **Introduction**

→ Working at **Razorpay** → RazorpayX Engagement Team

→ Previously worked at Samsung Research → Contacts Application.

→ Graduate from Thapar University 2019 batch

→ Total 4+ years of work experience. 3+ years of experience in mentoring and teaching

→ Currently, I work at Booking.com as a Senior Software Engineer Amsterdam.

* Feel free to reach out to me → Slack, WhatsApp, LinkedIn

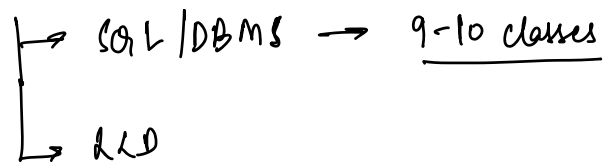Mobile :— +91- 8195910238

Email :— singh.alok-1@scaler.com

→ Carrer
→ Jobs   } → Calendly link → Will share.
→ Learning

→ WhatsApp Group.

→ LinkedIn

My Classes will be around ≈ 2 hours.
                                    ↓
                              2:30 hours

2nd Module

- → SQL/DBMS → <u>9-10 classes</u>
- → LLD

In DBMS, we are going to cover SQL.

First half → Theory
Second half → Practical.

Ground Rules.

1) Ask Questions in public chat.
2) Make it collaborative. and engaging
3) Answer questions and help your batchmates.

9 Classes

1) Introduction to DBMS.
2) Schema Design 1
3) Schema Design 2
4) CRUD
5) Joins
6) Aggregates and Built-in functions.
7) Indexing
8) Transactions (ACID properties)
9) SQL Subqueries and Views. (Advanced SQL)

Intro to DBMS and SQL

↓

Database Management System

What is Data?

Any information about something

Scaler's Software System

→ Students

→ Mentors

→ Instructors

→ Jobs

→ Classes you attend

→ Questions.

→ Assignments → PSP
→ Avg. time to completion
↘ Are students enjoying assignments or not

Airbase ?

↓

Place where aircraft are stored.

Database is somewhere we store data

↓

Collection of Related data

Students   Mentors   Assignments

Questions

We might have different DB for different type of data.
Like, Analytics DB

Factors to decide which dB. ⟶ usecase

MySQL/MongodB

RedShift/ BigTable
(Optimised for Analytical Queries)
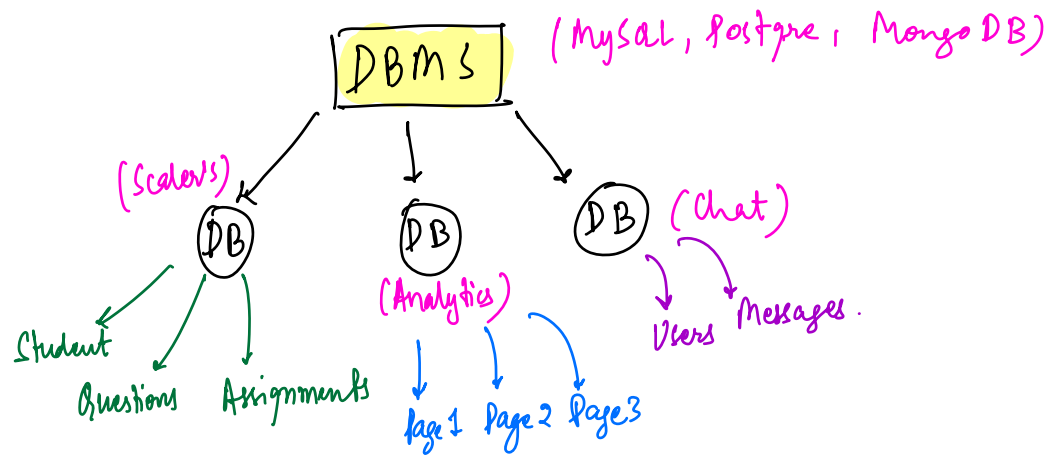
Technical Architecture ⟶ Microservices.

Payments   Accomodations   Flights.
PaymentDB   AccoDB   Flight DB

⟶ Monolith Architecture
        Booking DB

DBMS ⟶ Way/Software that is used to manage databases.
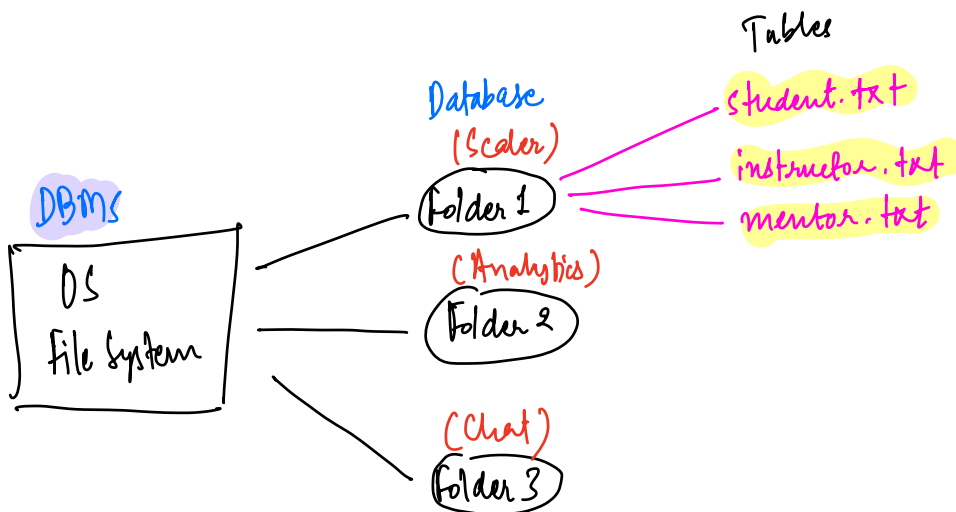   WorkBench ⟶ We will use.

DBMS (MySQL, Postgre, MongoDB)

(Scalers) → DB
- Student
- Questions
- Assignments

DB **(Analytics)**
- Page 1 Page 2 Page 3

DB **(Chat)**
- Users Messages.

Break ⟶ 10:30 PM

Types of DBMS.

Javascript, Python,
Java,
C/C++

Backend ⟶ LLD.

Full Stack   Backend.

Expert in frontend
Know Backend

DBMS

Tables

Database
(Scaler)

student.txt

instructor.txt
mentor.txt

OS
File System

Folder 1

(Analytics)
Folder 2

(Chat)
Folder 3

Can this serve as a DBMS? ⟶ Yes.

The very first DBMS was a File Based DBMS.

What is a File Based DBMS?

→ Stores data as files on disk

There are multiple cons of this DBMS →

1 Retrieval of data is not easy.

It is slow and inefficient.

2 Forming Relation b/w files is difficult.

e.g. Student Assignment.txt

```
1) Adil    241   242   234
```
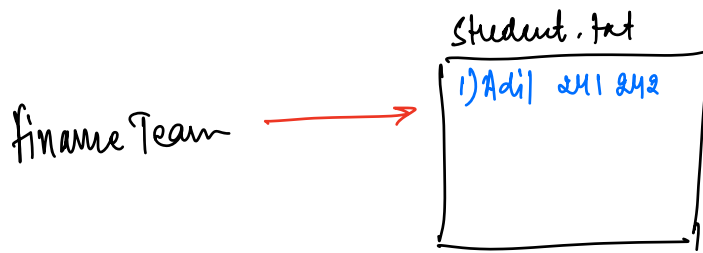
e.g. Assignment.txt

```
1) 241    LLD
2) 242    DSA
3) 234    HLD
```

3 There is possibility of errors.

e.g.

Students.txt

Get details about a student named → Nipun.

Student.txt
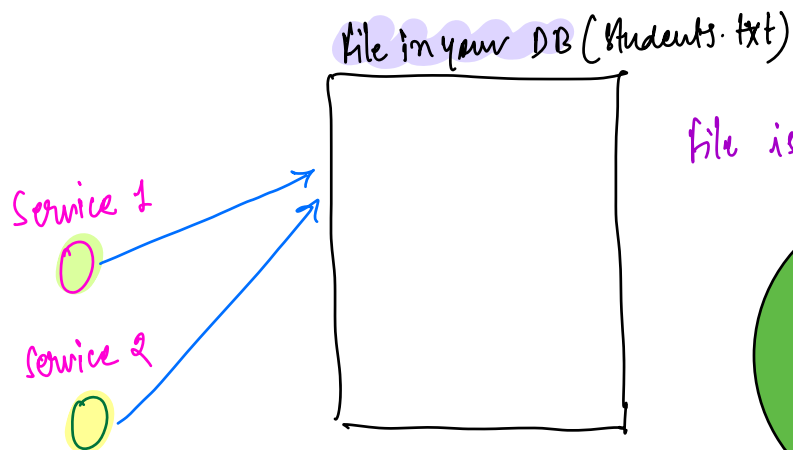
Finance Team → 1) Adil 241 242

Problem
→ Duplication of data
→ Now, maintaining consistency is a major problem.

Student.txt

Instructors Team → 1) Adil 241 242

Student.txt

Business Team → 1) Adil 241 242
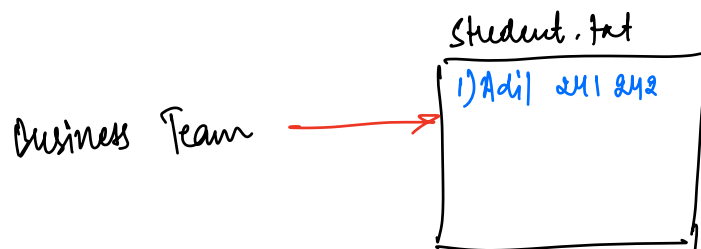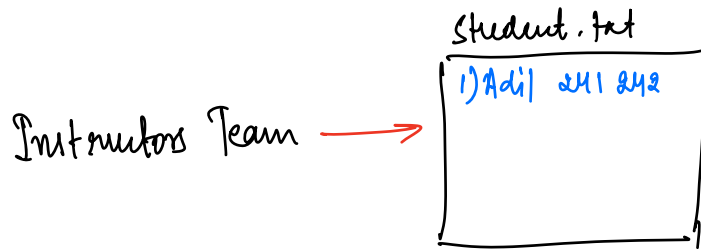
4) Inconsistency / Duplication.

5) Security

6) No support for concurrency.

File in your DB (Students.txt)

Service 1 ◯

Service 2 ◯

File is stored on a disk
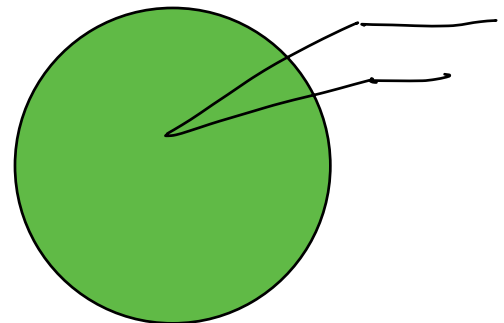
Next Class

→ What is a dedicated DBMS

→ SQL

→ Primary keys.

→ Non-relational DBMS

→ Relational Model.

Entry level

↳ DSA.

Schema Design. → LLD interviews.
Many companies like IBM, Oracle,
Walmart →