

# Data Modelling

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# Disclaimer

1. What's the most fun thing you have done related to engineering ? Why was it fun ?
2. Curiosity comes from fun and then it becomes a cycle. The more fun you have the more curious you become.
3. For some people, fun is when they figure out how things work behind the scenes.
  - It's fun because you are the detective and who doesn't want to play the role of a detective.
4. For other's it fun when they go from "I wonder" to "Let's try".
  - It's fun because you are the one who can create the magic.

# Agenda

- Data Lifecycle
- Data tools one must know about
- Engineering Culture
- Problem solver attitude
- Conversation with Apoorva & Sayan

# Data Lifecycle

OLTP - Online Transaction Processing Systems

ETL - Extract Transform Load

OLAP - Online Analytical Processing Systems

Data Warehouse

Data Analysis

Business Intelligence

# Why care about data tools ?

Insight driven decision making

Performance Monitoring and Optimisation

Great for quick automation and experimentation

Help measure success or failure of an idea via metrics

# Data tools

- **ETL**

- Airflow, luigi



- **Data Querying**

- Redash, Metabase



- **Data Analysis**

- Excel, Jupyter notebooks



- **Data Visualisation**

- Tableau, Power BI, Alteryx



# What all we have learnt ?

Which database to use for which use cases ?

How to optimise these databases for your needs ?

How to use this data for generating insights ?

**A great engineer needs and creates a great  
environment which is what we call as Tech  
Culture**

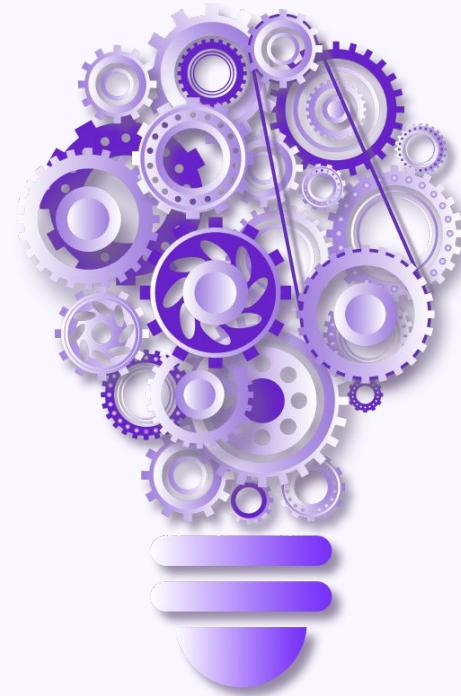
# Tech culture – Why?

- Creates a feeling of belonging
- Ease of decision making
- Help set aspirational goals
- Creates a common communication language



# Tech culture – What?

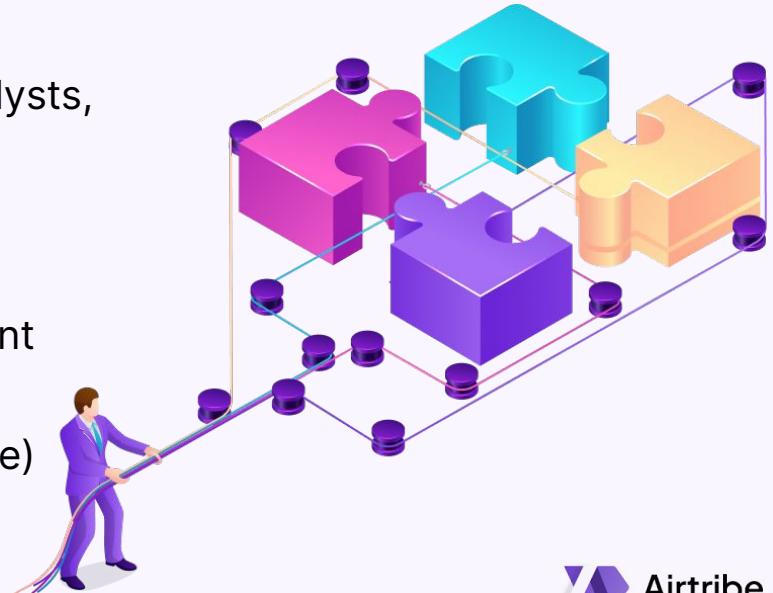
- What we aspire to become ?
- How we communicate ?
- How we build things ?
- What to focus on ?



# Tech Culture – How ?

# Problem Solver Attitude

- Engineer's mind → Thinks Solution
- Great Engineer's mind → Understand the problem first without jumping into solutions
- Work Collaboratively with other engineers, analysts, designers, product and business stakeholders
- Experiment, Experiment, Experiment, Experiment  
(Frame Hypothesis, Build Prototypes and Iterate)



# **But why does an engineer need to think with problem solver's attitude ?**

Deployed a feature but no one uses it.

Unable to deploy a feature because other teams don't agree to the said solution.

Deployed a feature which didn't solve the problem, stakeholders lost the trust.

As a dev, your work is not just to deliver the code, it's to bring impact.

We can't make decisions if we don't know why we are doing it.

# Problem Solver First Approach

- Talk to your customer
- Look at Data - Develop Insight
- Look at your metrics - Define impact
- Experiment



# **Power of Duos**

## **Pair programming**

# Automate if you have to do it thrice

- Scripts and tests are your best friends
- Continuous Integration



Demos

Standup

Sprint Planning

Code reviews

Oncall reviews

Retrospectives

# Importance of Rituals

# Power of communication

- Writing as a culture
- RFD's, PRD's, RCA's, Code
- The way we organise our working meetings (5 day Sprint)
- 1-1s



# Thank You!