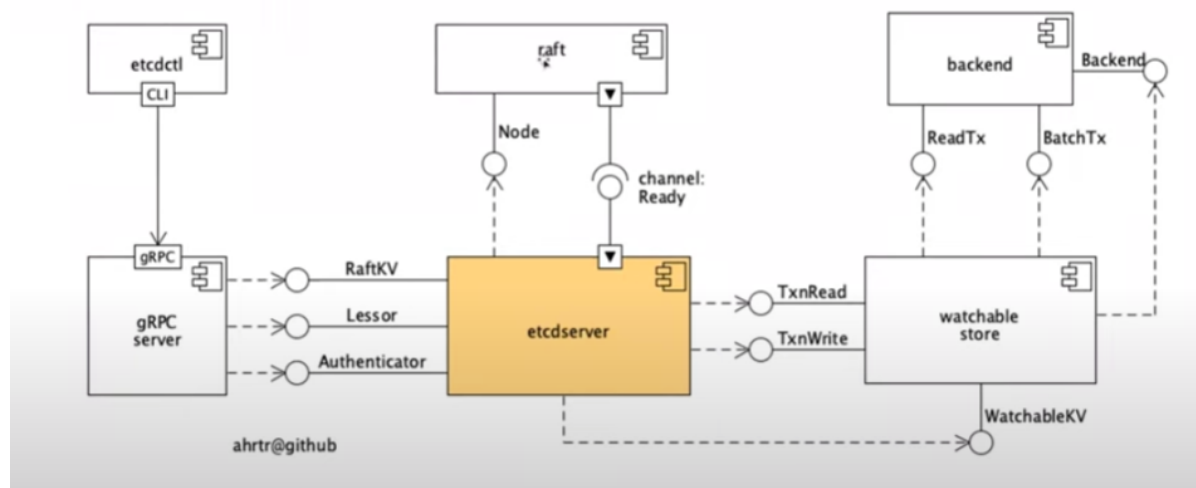# Etcd Deep Dive

> Deep view of etcd from [this vedio](#).

## 1 General architure

- **etcd** is a distributed reliable key-value store for the most critical data of a distributed system.
  - Key-value
    - It's a No-SQL database.
  - Strong consistency.
    - etcd is a CP system.
      - It can't serve write requests if the quorum isn't satisfied.
    - It support both linearizable (default) and serializable read requests.
      - etcdctl get k1 --consistency="s"
      - curl http://127.0.0.1:2379/health?serializable=true



- Read: gRPC server -> RaftKV -> etcdserver --(propose) --> Raft --(commit)-->etcdserver -> store

## 2 Storage: 3 kinds

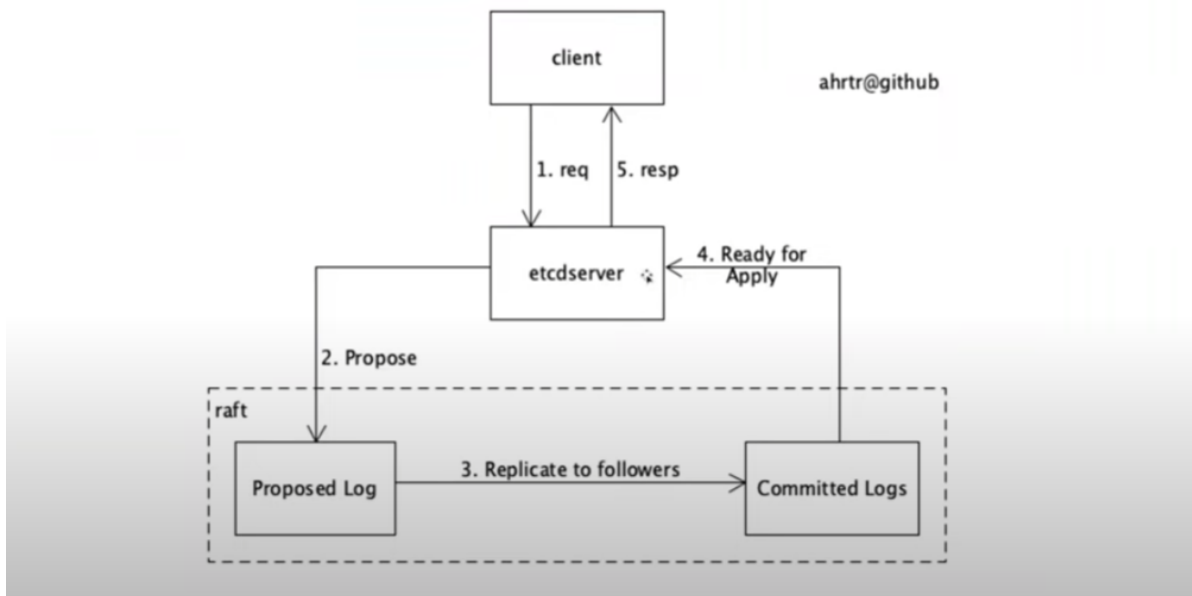### 2-1 WAL

> vedio: 19:13

### 2-2

### 2-3

## 3 Raft replication

- Communication between raft and etcdserver
  - etcdserver talks to raft via Node interface.
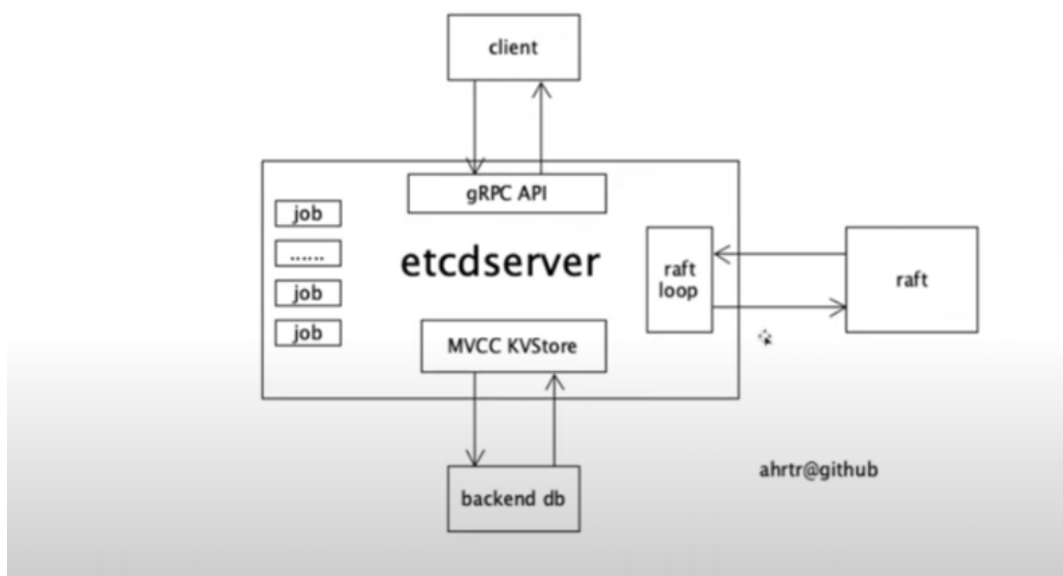  - Raft talks to etcdserver via channel.

## Replication: Raft



- Write: all go through the leader
- Read:
  - serializable: go through leader or follower
  - linerizable: only go through leader

# 4 Core server



- **Core:** gRPC && Raft

# 5 A PUT workflow

# Put e2e workflow