

Course introduction

The image shows the YouTube homepage interface. A red box highlights the left-hand navigation sidebar, which includes links to Home, Explore, Subscriptions, Library, History, Your videos, Watch later, Liked videos, and a 'MORE FROM YOUTUBE' section with links to YouTube Premium, Movies & Shows, Gaming, and Live. Another red box highlights the top header area, containing the YouTube logo, a search bar, a microphone icon, a camera icon, a grid icon, and a notification bell with a '9+' badge. A third red box highlights the main content area, which displays a grid of eight science-related video thumbnails. The thumbnails include titles such as 'An Epic Journey to a Black Hole to Give You Goosebumps', 'Do Black Holes Create New Universes?', 'Warping Time', 'First Image of a Black Hole!', 'The Simplest Math Problem No One Can Solve - Collatz Conjecture', 'Why Magnetic Monopoles SHOULD Exist', '2020's Biggest Breakthroughs in Math and Computer Science', and 'String Theory'.

YouTube

Search

Home

Explore

Subscriptions

Library

History

Your videos

Watch later

Liked videos

MORE FROM YOUTUBE

YouTube Premium

Movies & Shows

Gaming

Live

DO BLACK HOLES CREATE NEW UNIVERSES?

Warping Time

First Image of a Black Hole!

3x+1

EXISTS

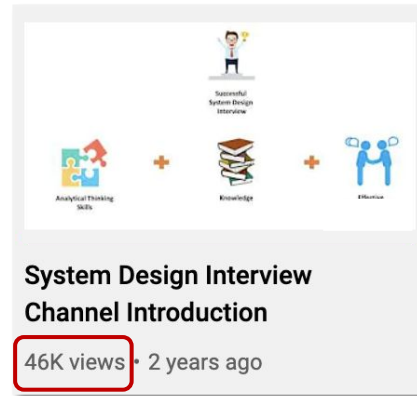
SHOULD EXIST

DISCOVERIES

String Theory

Course introduction

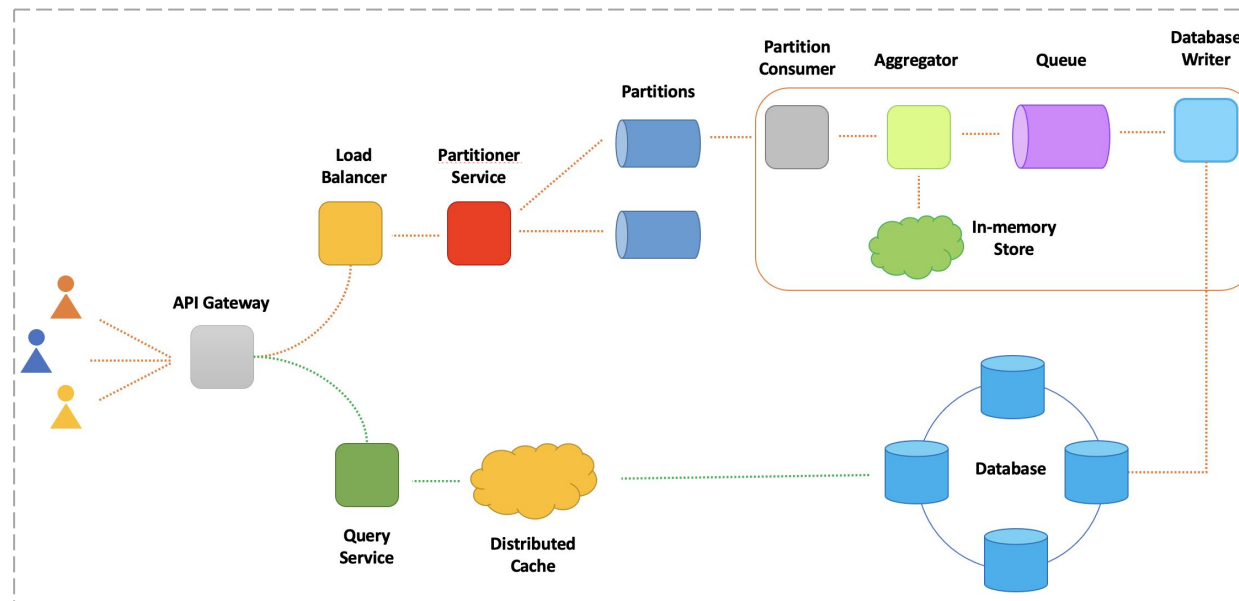
some YouTube video



counting this number requires
an advanced distributed system



in the video we built
this architecture



Course introduction

how to
transfer data
at large scale

non-blocking I/O

buffering and batching

network protocols

message formats

load balancing

partitioning

consistent hashing

how to
aggregate data
efficiently

push vs pull

deduplication

checkpointing

data enrichment

embedded database

state management

fallback

how to
store data
reliably

reverse proxy

coordination service

health checking

peer and service discovery

replication

quorum

availability zone

how to
retrieve data
quickly

aggregate on write

eventual consistency

denormalization

data rollup

hot and cold storage

polyglot persistence

distributed cache

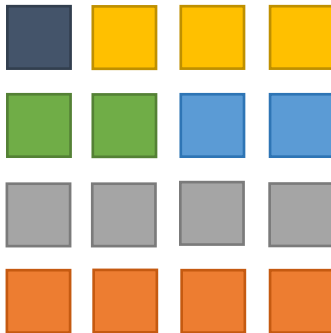
Course introduction



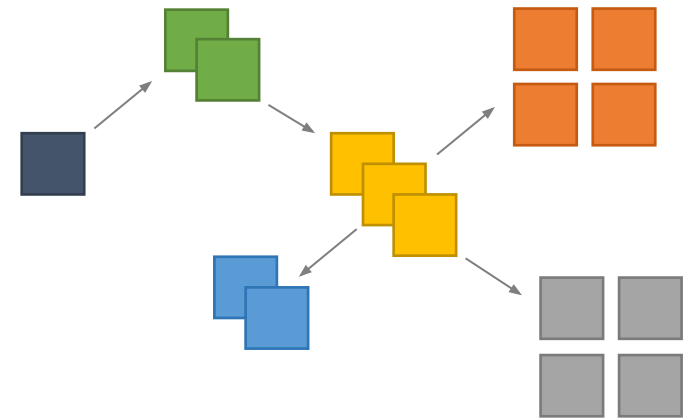
building
instructions



design



knowledge of
when and how
to use



concepts