Databases

Ragav kumar V
@ragavkumarv

Databases

Special software to store data

Where does databases live ?

Cloud

Best Cloud Storage Providers

Can they run software?

No ❌

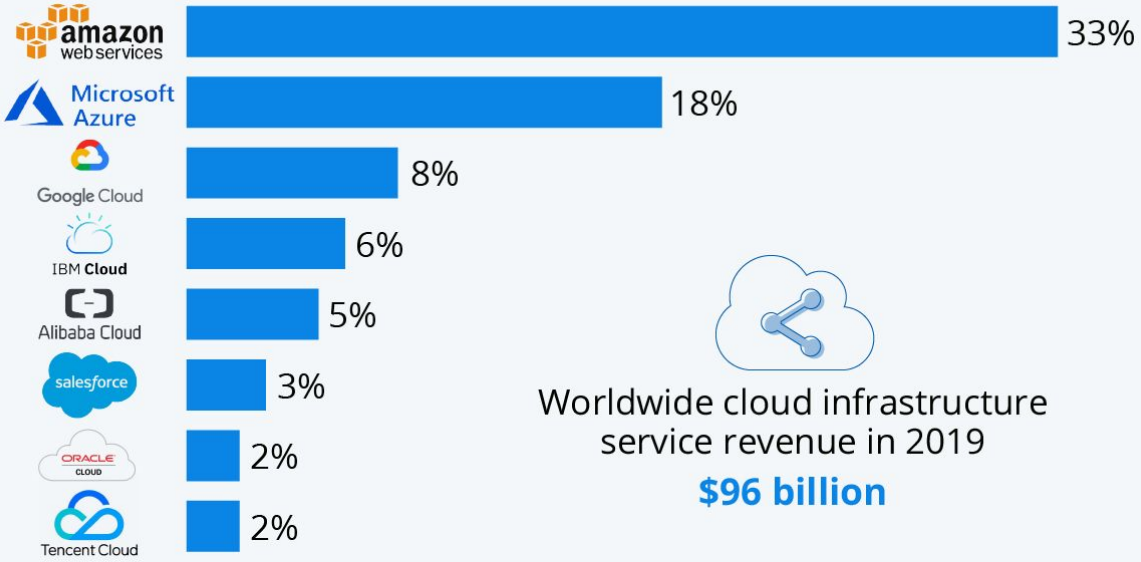
What is Cloud?

Renting PC

Cloud Providers

Amazon Leads $100 Billion Cloud Market

Worldwide market share of leading cloud infrastructure service providers in Q4 2019*



* includes platform as a service (PaaS) and infrastructure as a service (IaaS) as well as hosted private cloud services

Source: Synergy Research Group

If your Buying

1. Many PCs - Initial cost
2. You need a room (physical place)
3. A/C
4. Current bill
5. You need someone to maintain
6. HDD/RAM/Processor - Replace - Customer data/Seamless
7. Backup - PCs
8. Backup current (UPS)

If your Renting

1. Many PCs - Initial cost - ❌
2. You need a room (physical place) - ❌
3. A/C - ❌
4. Current bill - ❌
5. You need someone to maintain - ❌
6. HDD/RAM/Processor - Replace
   -Customer data/Seamless -- ❌
7. Backup - PCs - ❌
8. Backup current (UPS) - ❌
9. Disaster management - ✅
10. Easy Scaling - ✅

PC

PC – Specs

1. Processor - i7/Ryzen
2. Ram - 16GB
3. HDD - HDD / SSD(5 times - 10 times - 500MB/s or 1GB/s) - 500GB/2TB
4. OS - Cloud


CPU
Chipset
KK99
Chipset
X99
Motherboard
GPU
QUADRO
RAM
Keyboard
V-NAND SSD
970 EVO
NVMe M.2
SAMSUNG
M.2 SSD
HDD
PSU
CORSAIR
AX1600i
SSD
SAMSUNG
Solid State Drive
#PcBuild
How To Choose?


openSUSE
SPARKYLINUX
archlinux
fedora
debian
Tails
theamnesicincognitolivesystem

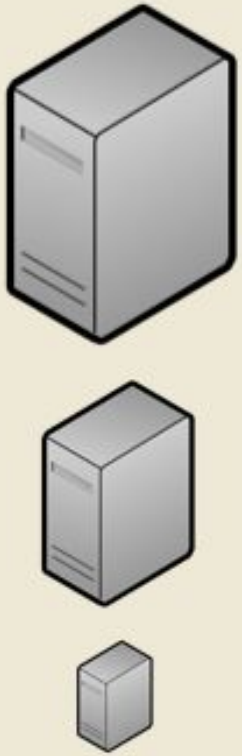
OS

Linux (80%)

1. Ubuntu
2. kali
3. Redhat
4. Cent OS
5. Arch (Distros)
6. Alpine (200mb)

Everything you can do from command line - Automate easily (script)

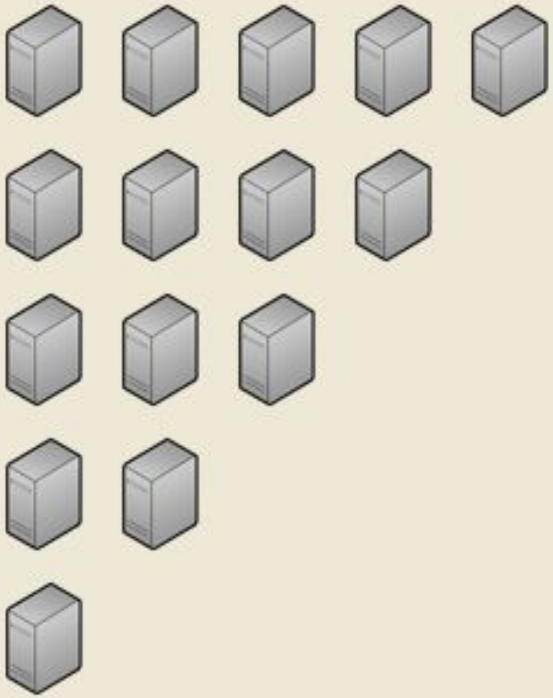
Scaling



Vertical

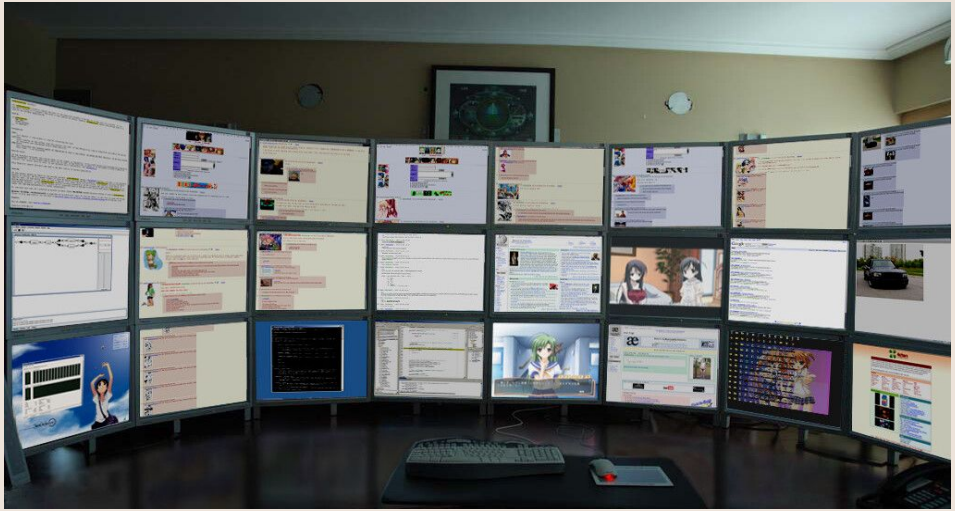
vs.

Horizontal



Estimate Storage Netflix

1. Netflix - 1ep - 40mins - 4 different vid (HD, FullHD, 2K 4K) (7.5GB) x (mp4 (+3 codec) + mkv (+3 codec)) -> 45GB x (3 language) -> 135GB -> 500GB -> 0.5TB
2. 1 season -> 24ep -> 12TB
3. 10 seasons -> 120TB
4. GOT
5. HD -> 0.5GB, FullHD -> 1GB, 2K -> 2GB, 4K -> 4GB
6. mp4 - (HEVC x265, x264) (+3 codec)
7. mkv - (+3 codec)

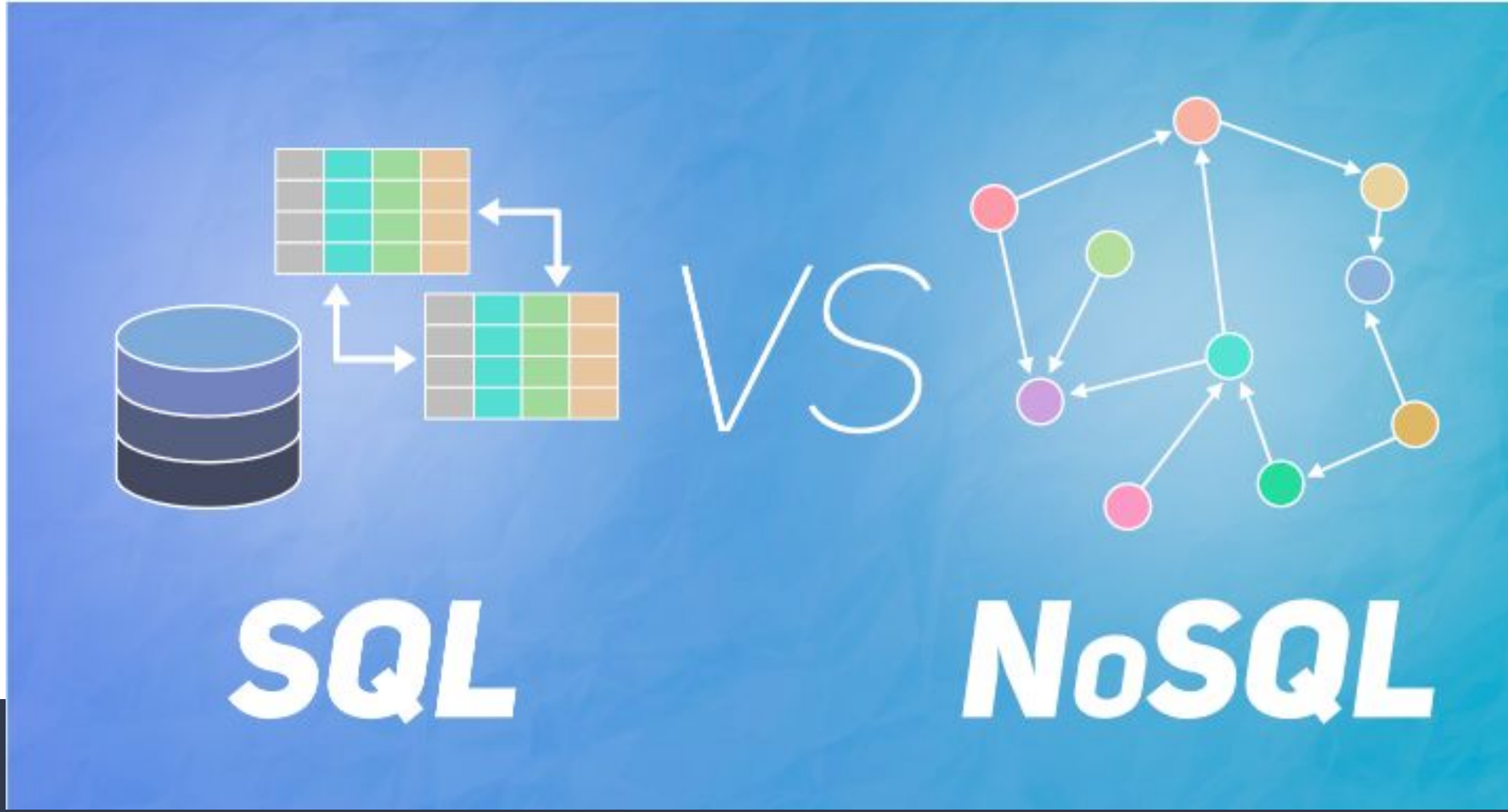


OLX

Database - Why?

Features

1. Database - Frequently asked it will have it in the ram
2. Querying becomes easier
3. CRUD - easy
4. Backups are inbuilt
5. Undo - easily (time limit)
6. Performance


VS
SQL
NoSQL

Relational Databases (SQL)

1. SQL
2. PlSql
3. MySQl
4. Postgres
5. AWS RDBMS

Non - Relational Databases (NoSQL)

1. MonogoDB
2. Cassandra
3. CouchDB
4. Redis
5. Neo4j
6. AWS DynamoDB