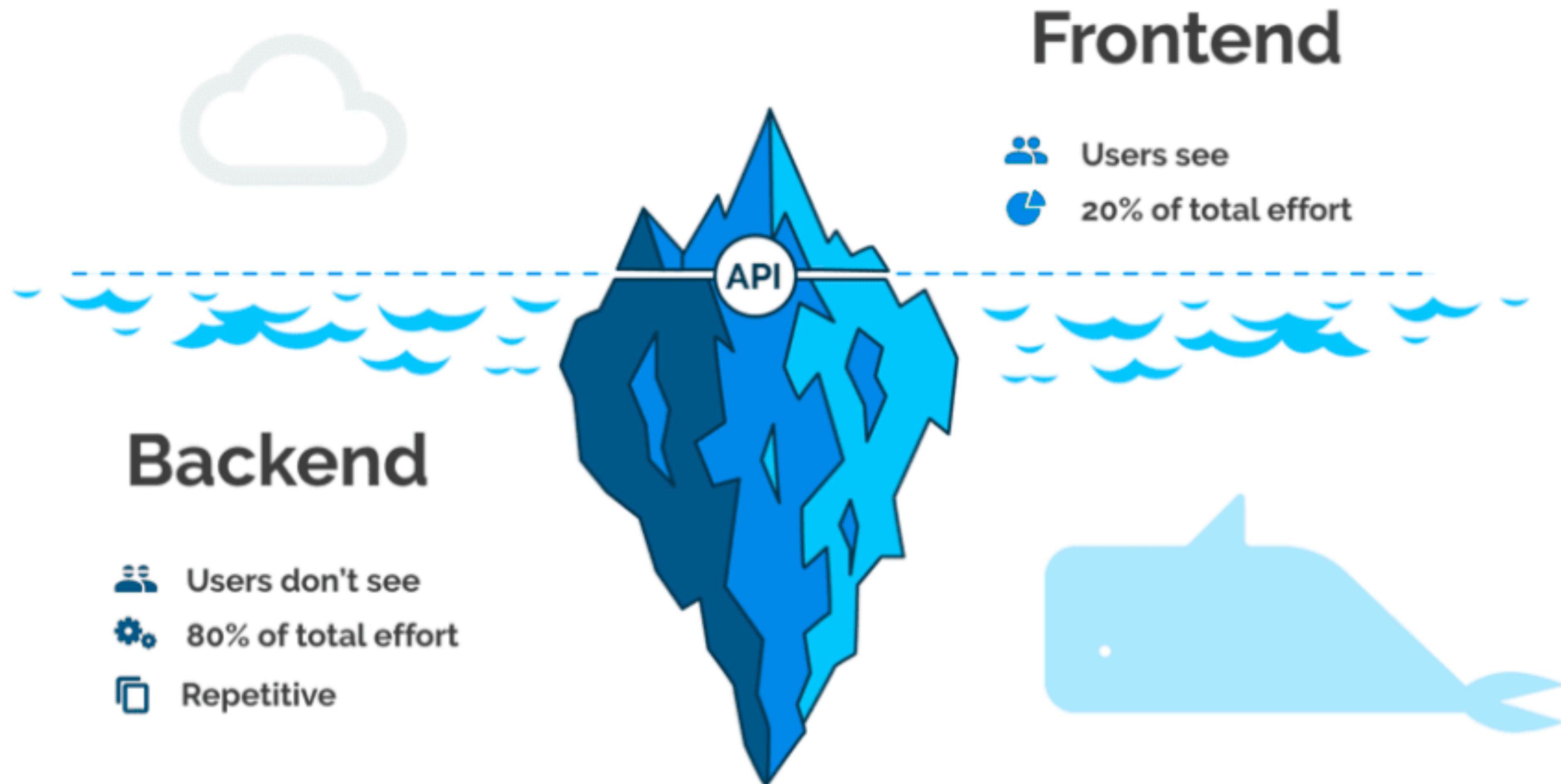


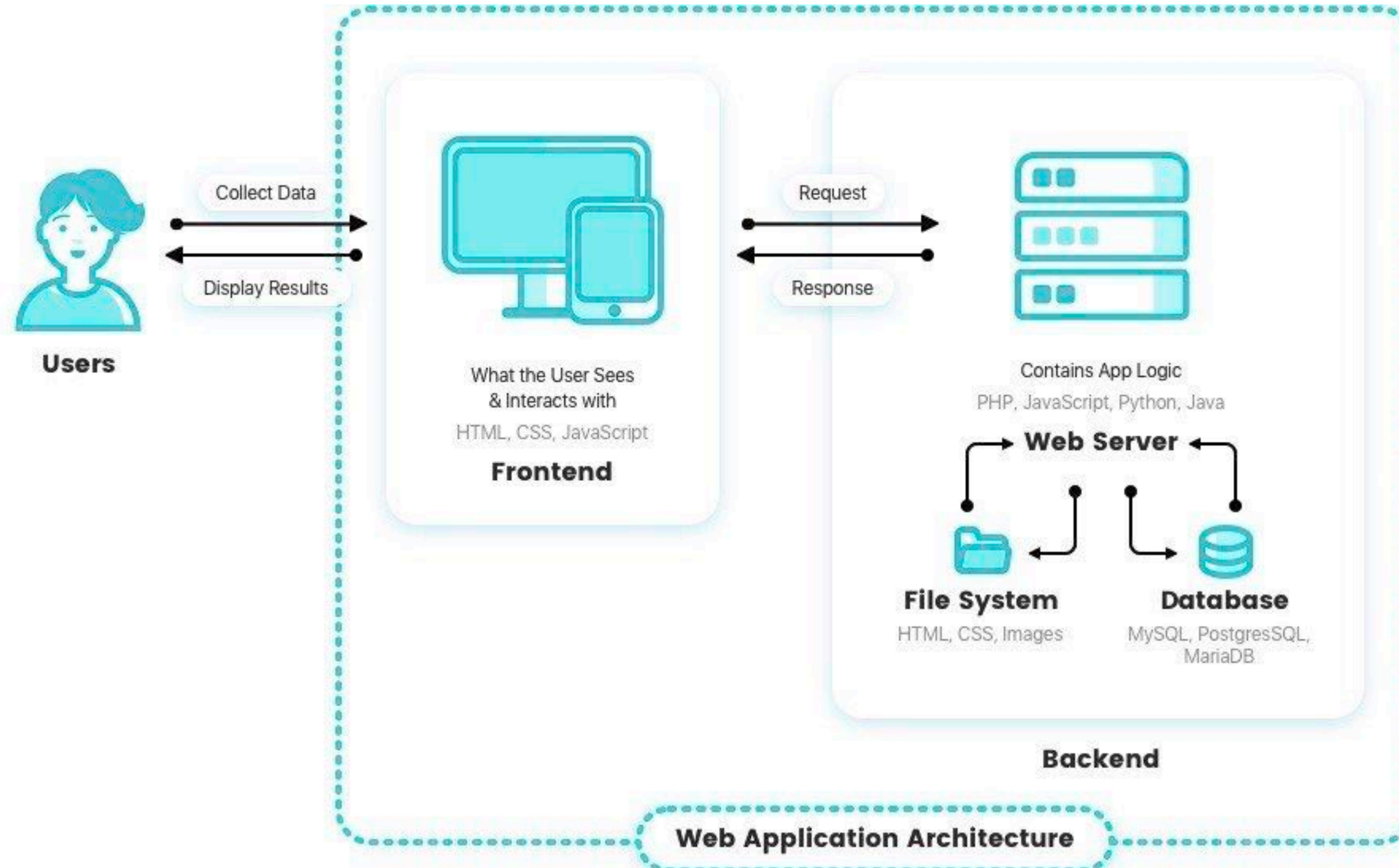
# **Web Dasturlarining Texnologiyalari**

**Python Web Development**

# Frontend vs Backend

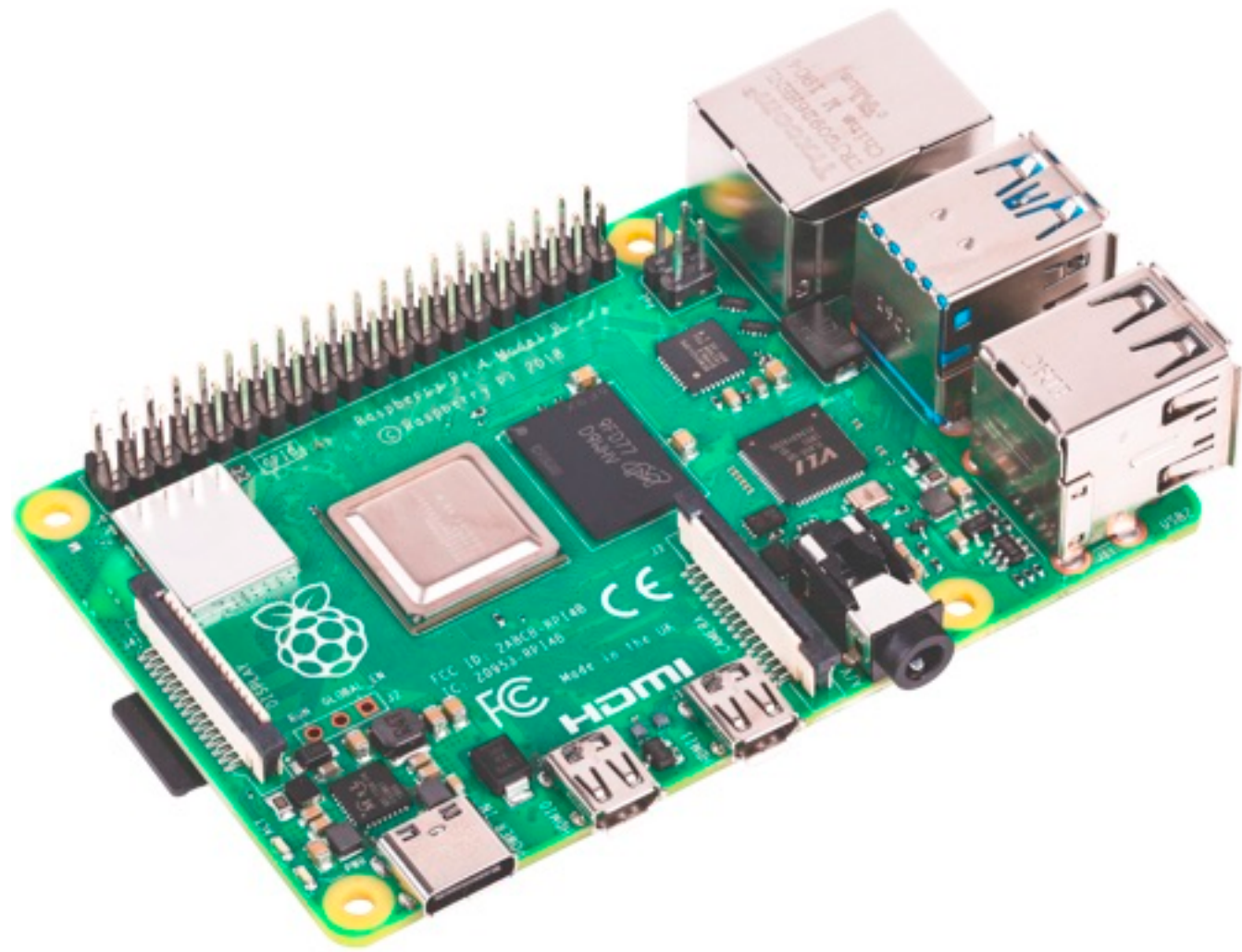


# Web Application Architecture





# Web Servers



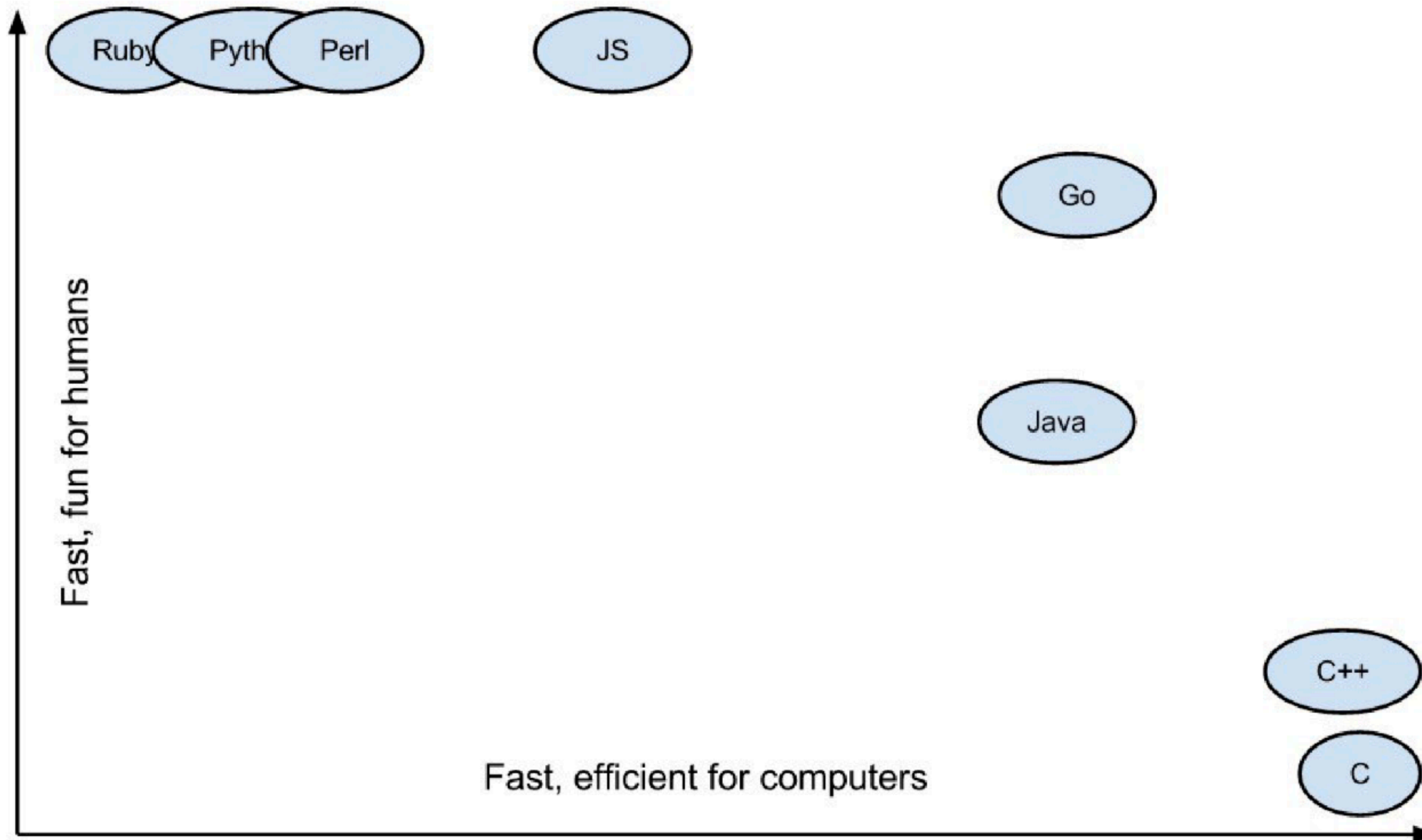


# 96.3% of World's Top 1 million servers run on Linux

```
tcarri@fed31:~ — htop
Tasks: 121; 1 running
Load average: 0.01 0.04 0.00
Uptime: 01:03:56
Mem[|||||] 742M/7.77G
Swp[|||||] 0K/4.00G

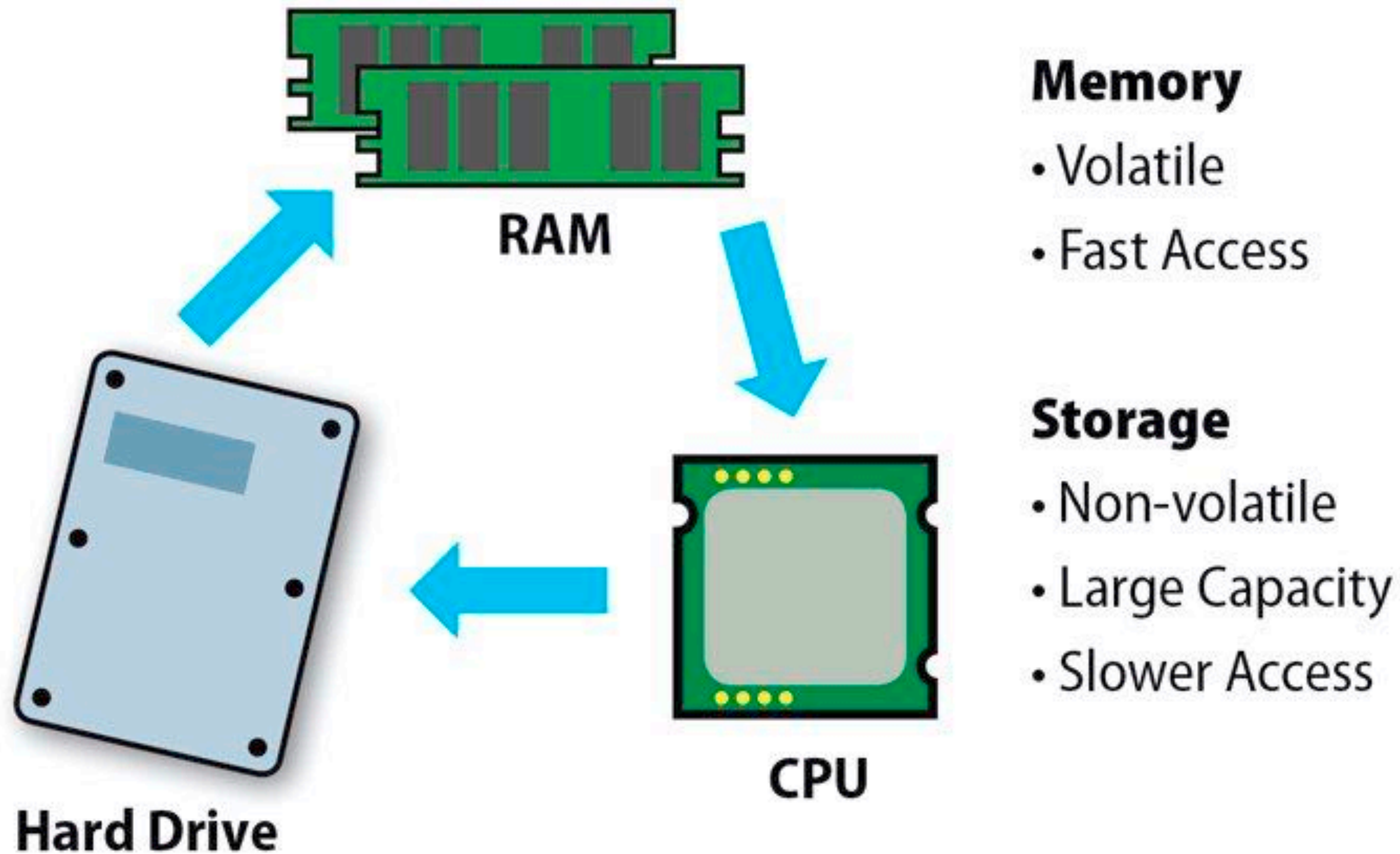
PID USER      PRI  NI  VIRT   RES   SHR  S  CPU%  MEM%   TIME+  Command
789 root        20    0 384M  7652  6752  S   0.0   0.1  0:20.35 /sbin/rngd -f
893 root        20    0 260M  3032  2476  S   0.0   0.4  0:00.14 /usr/libexec/sss/sssd_nss --uid 0 --gid 0 --logger=files
835 chrony      20    0 87020  2864  2532  S   0.0   0.0  0:00.05 /usr/sbin/chronyd
1763 tcarri@      20    0 422M  49132 37728  S   0.0   0.6  0:00.11 /usr/bin/Xwayland :0 -rootless -noreset -accessx -core -auth /run/user/1000/.mutter-Xwaylandauth.E152A0
2913 tcarri@      20    0 221M  3624  3536  S   0.0   0.1  0:00.03 bash
790 rtkit       21    1 149M  3236  2956  S   0.0   0.0  0:00.04 /usr/libexec/rtkit-daemon
923 root        20    0 449M  7932  7000  S   0.0   0.1  0:00.06 /usr/libexec/accounts-daemon
931 root        20    0 28500 10360  8152  S   0.0   0.1  0:00.46 /usr/lib/systemd/systemd-logind
645 root        20    0 49808 14052  8764  S   0.0   0.2  0:00.51 /usr/lib/systemd/systemd-udevd
1603 tcarri@      20    0 6648  4240  2480  S   0.0   0.1  0:00.16 dbus-broker --log 4 --controller 11 --machine-id 2e07ac5fbc3f4da8a622a1f4784ed071 --max-bytes 100000000
1371 root        20    0 12076  4824  4228  S   0.0   0.1  0:00.01 /usr/sbin/wpa_supplicant -c /etc/wpa_supplicant/wpa_supplicant.conf -u -s
1563 tcarri@      20    0 20864 10844  8620  S   0.0   0.1  0:00.24 /usr/lib/systemd/systemd --user
1785 tcarri@      20    0 430M  7844  6868  S   0.0   0.1  0:00.02 /usr/libexec/gvfsd
1687 tcarri@      20    0 808M 15656 13164  S   0.0   0.2  0:00.11 /usr/libexec/gnome-session-binary --systemd-service --session=gnome
1887 tcarri@      20    0 1026M 29712 25684  S   0.0   0.4  0:00.10 /usr/libexec/evolution-calendar-factory
1885 tcarri@      20    0 508M  7900  6940  S   0.0   0.1  0:00.01 /usr/libexec/gvfsd-trash --spawner :1.22 /org/gtk/gvfs/exec_spaw/0
1246 root        20    0 450M  8720  7604  S   0.0   0.1  0:00.04 /usr/sbin/gdm
1942 tcarri@      20    0 612M 23512 18492  S   0.0   0.3  0:00.13 /usr/libexec/gsd-power
797 root        20    0 10112  6320  5456  S   0.0   0.1  0:00.38 /usr/lib/systemd/systemd-machined
779 avahi        20    0 31244  4144  3808  S   0.0   0.1  0:00.08 avahi-daemon: running [fed31.local]
2141 tcarri@      20    0 536M 16068 14056  S   0.0   0.2  0:00.03 /usr/libexec/gsd-printer
965 root        20    0 220M  3652  2788  S   0.0   0.0  0:00.19 /usr/sbin/crond -n
758 root        16    0 31216  1764  1184  S   0.0   0.0  0:00.01 /sbin/auditd
778 root        20    0 306M 10476  9032  S   0.0   0.1  0:00.11 /usr/sbin/ModemManager
781 root        20    0 326M 37092 15824  S   0.0   0.5  0:01.06 /usr/bin/python3 /usr/sbin/firewalld --nofork --nopid
785 root        20    0 11288  2036  1912  S   0.0   0.0  0:00.00 /usr/sbin/mcelog --ignoreudev --daemon --foreground
791 root        20    0 247M 11452  9876  S   0.0   0.1  0:00.05 /usr/sbin/sss -i --logger=files
798 root        20    0 391M 13176 11164  S   0.0   0.2  0:00.09 /usr/libexec/udisks2/udisksd
811 root        20    0 257M  3516  2848  S   0.0   0.0  0:00.00 /usr/sbin/gssproxy -D
823 root        20    0 462M 11308  9440  S   0.0   0.1  0:00.05 /usr/sbin/abrttd -d -s
824 root        39   19 4992  1444  1304  S   0.0   0.0  0:00.00 /usr/sbin/alsactl -s -n 19 -c -E ALSA_CONFIG_PATH=/etc/alsa/alsactl.conf --initfile=/lib/alsa/init/00ma
827 dbus        20    0 262M  4312  3436  S   0.0   0.1  0:00.05 /usr/bin/dbus-broker-launch --scope system --audit
881 avahi        20    0 31060  336   0 S   0.0   0.0  0:00.00 avahi-daemon: chroot helper
F1 Help F2 Setup F3 Search F4 Filter F5 Tree F6 Sort By F7 Icon F8 View F9 Kill F10 Quit
```

# Server Side Programming Languages





# Computing Power



# aHost Internet Tariffs

Тарифы без ограничения трафика

ТАРИФ	СКОРОСТЬ ДОСТУПА В СЕТЬ ИНТЕРНЕТ	СКОРОСТЬ ДОСТУПА В СЕТЬ «TAS-IX»	ТИП ИНТЕРНЕТ-КАНАЛА	АБОНЕНТСКАЯ ПЛАТА В МЕСЯЦ
UNLIM 256	до 256 кбит/с	до 100 мбит/с	негарантированный	БЕСПЛАТНО
UNLIM 1M	до 1 мбит/с	до 100 мбит/с	негарантированный	250 000 сум
UNLIM 2M	до 2 мбит/с	до 100 мбит/с	негарантированный	480 000 сум
UNLIM 3M	до 3 мбит/с	до 100 мбит/с	негарантированный	690 000 сум
UNLIM 5M	до 5 мбит/с	до 100 мбит/с	негарантированный	1 100 000 сум
UNLIM 7M	до 7 мбит/с	до 100 мбит/с	негарантированный	1 470 000 сум
UNLIM 10M	до 10 мбит/с	до 100 мбит/с	негарантированный	2 000 000 сум
UNLIM 15M	до 15 мбит/с	до 100 мбит/с	негарантированный	2 850 000 сум
UNLIM 20M	до 20 мбит/с	до 100 мбит/с	негарантированный	3 600 000 сум
UNLIM 35M	до 35мбит/с	до 100 мбит/с	негарантированный	6 000 000 сум
UNLIM 50M	до 50 мбит/с	до 100 мбит/с	негарантированный	8 000 000 сум
UNLIM 75M	до 75 мбит/с	до 100 мбит/с	негарантированный	11 250 000 сум
UNLIM 100M	до 100 мбит/с	до 100 мбит/с	негарантированный	14 000 000 сум



# Cloud Services



# Digital Ocean Pricing

## General Purpose Droplets

Virtual machines with a healthy balance of memory and dedicated compute hyper-threads from best-in-class processors. Designed for the widest range of mainstream or production workloads, including web application hosting, e-commerce sites, medium-sized databases, and enterprise applications. [Learn more](#)

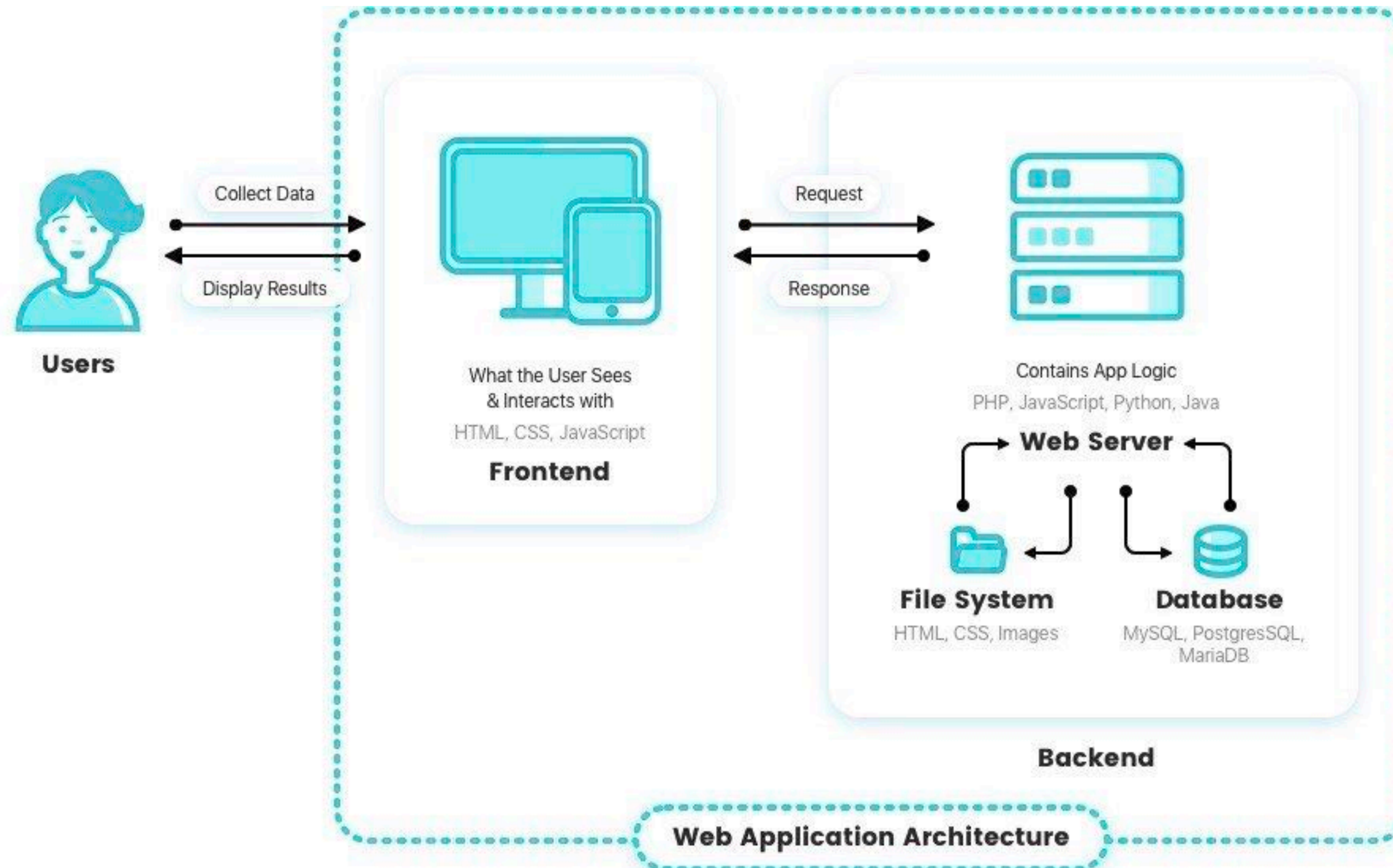
Memory	vCPUs	Transfer	SSD	\$/HR	\$/MO	
8GB	2vCPU	4TB	25GB	0.089	\$60	<a href="#">Create</a>
16GB	4vCPUs	5TB	50GB	\$0.179	\$120	<a href="#">Create</a>
32GB	8vCPUs	6TB	100GB	\$0.357	\$240	<a href="#">Create</a>
64GB	16vCPUs	7TB	200GB	\$0.714	\$480	<a href="#">Create</a>
128GB	32vCPUs	8TB	400GB	\$1.429	\$960	<a href="#">Create</a>
160GB	40vCPUs	9TB	500GB	\$1.786	\$1200	<a href="#">Create</a>





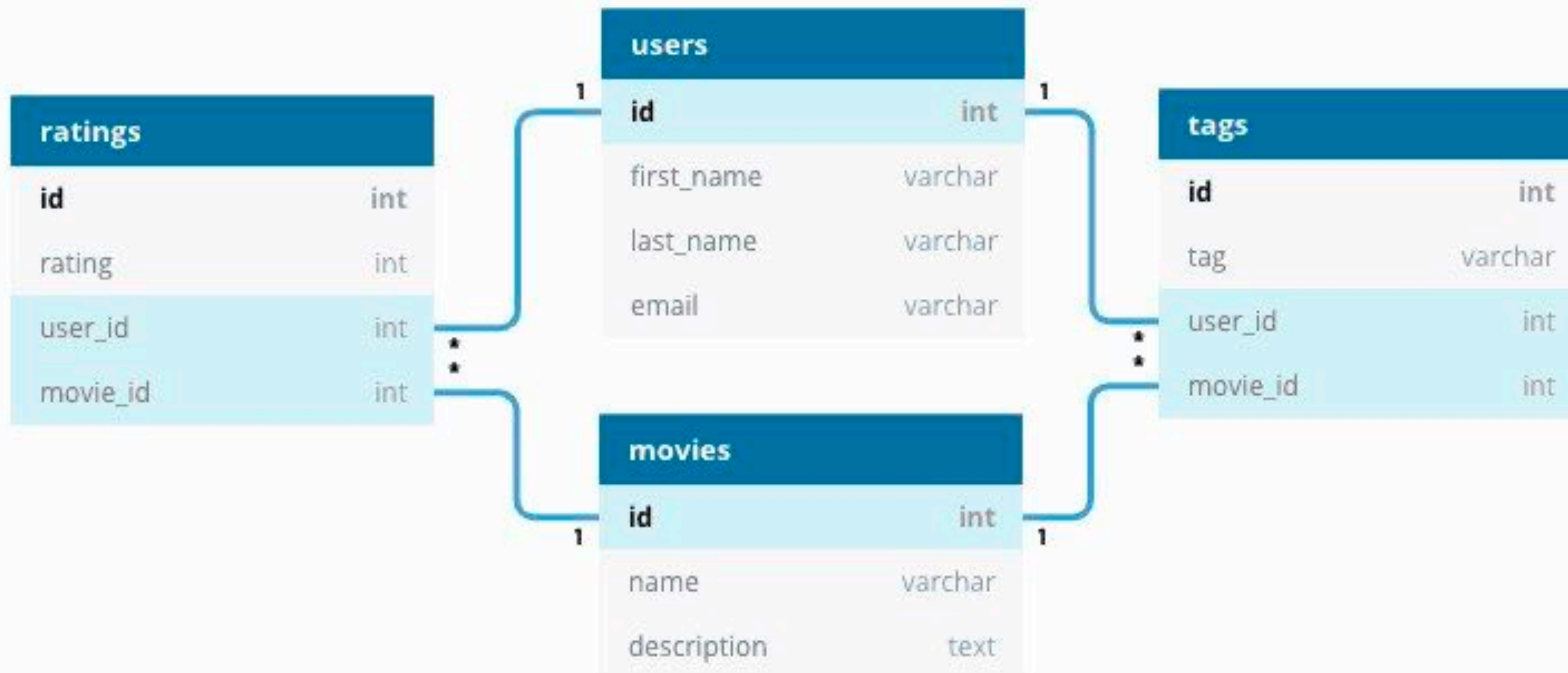
**There is no cloud**  
it's just someone else's computer

# Web Application Architecture



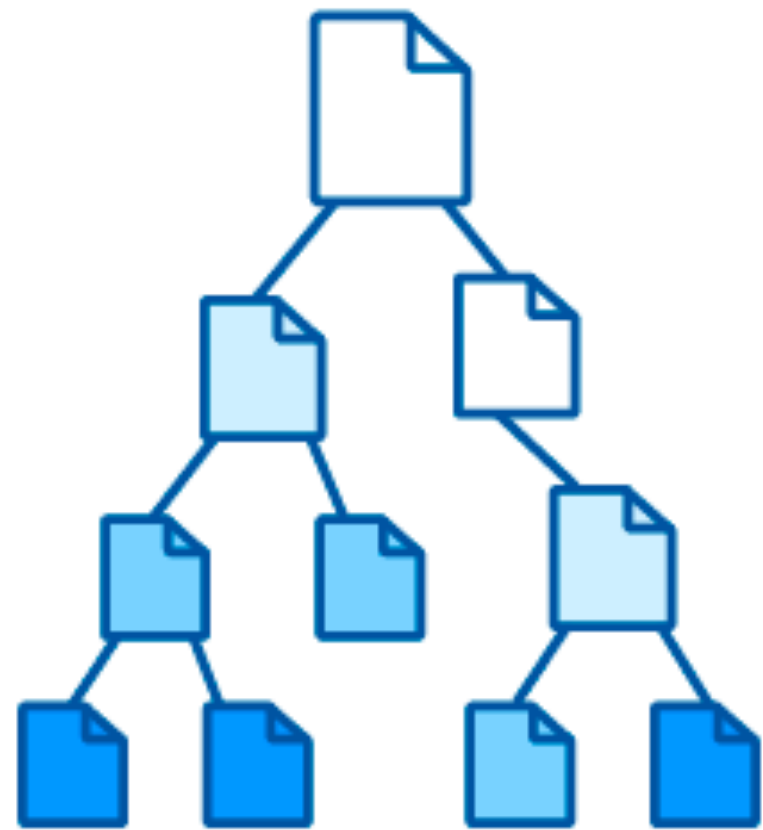


# RDBMS - Relational Databases

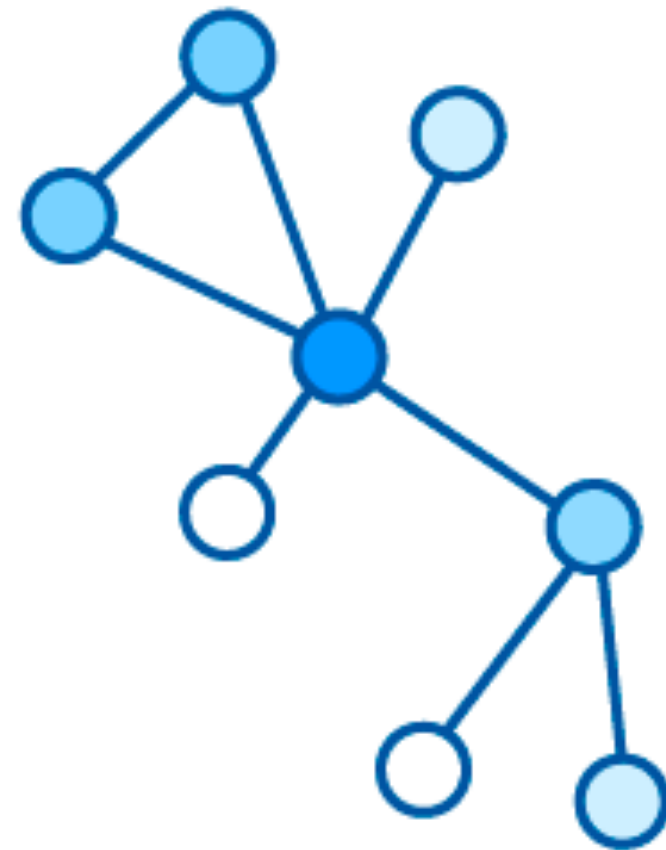


# NoSQL Databases (Not Only SQL)

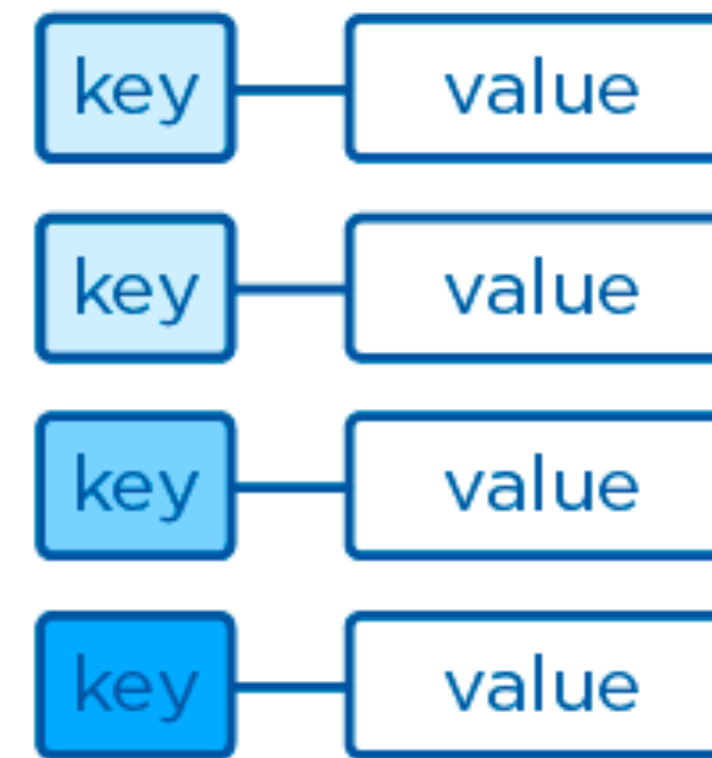
**Document**



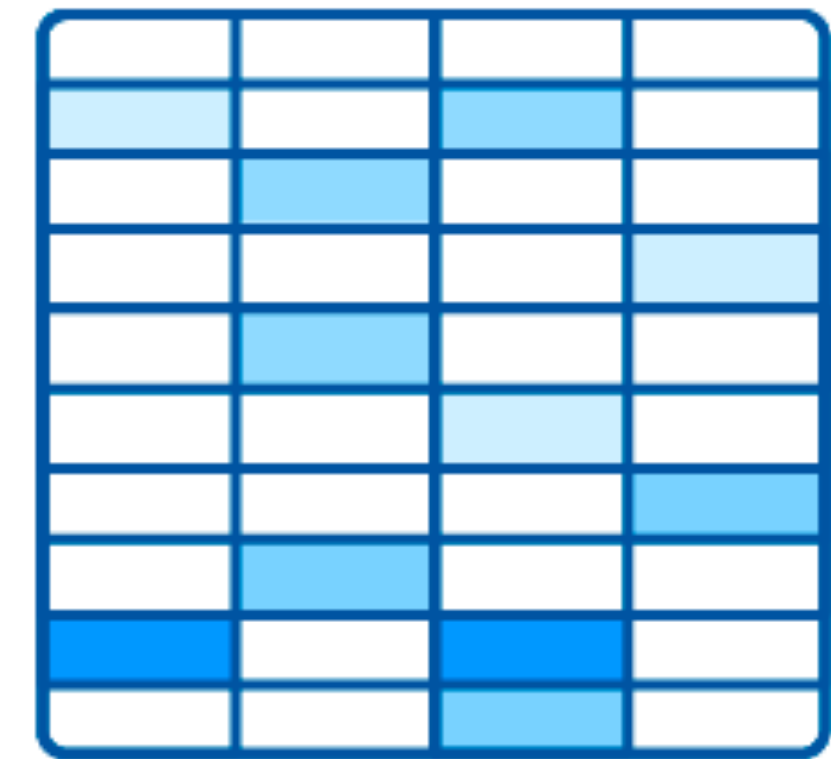
**Graph**



**Key-Value**



**Wide-column**



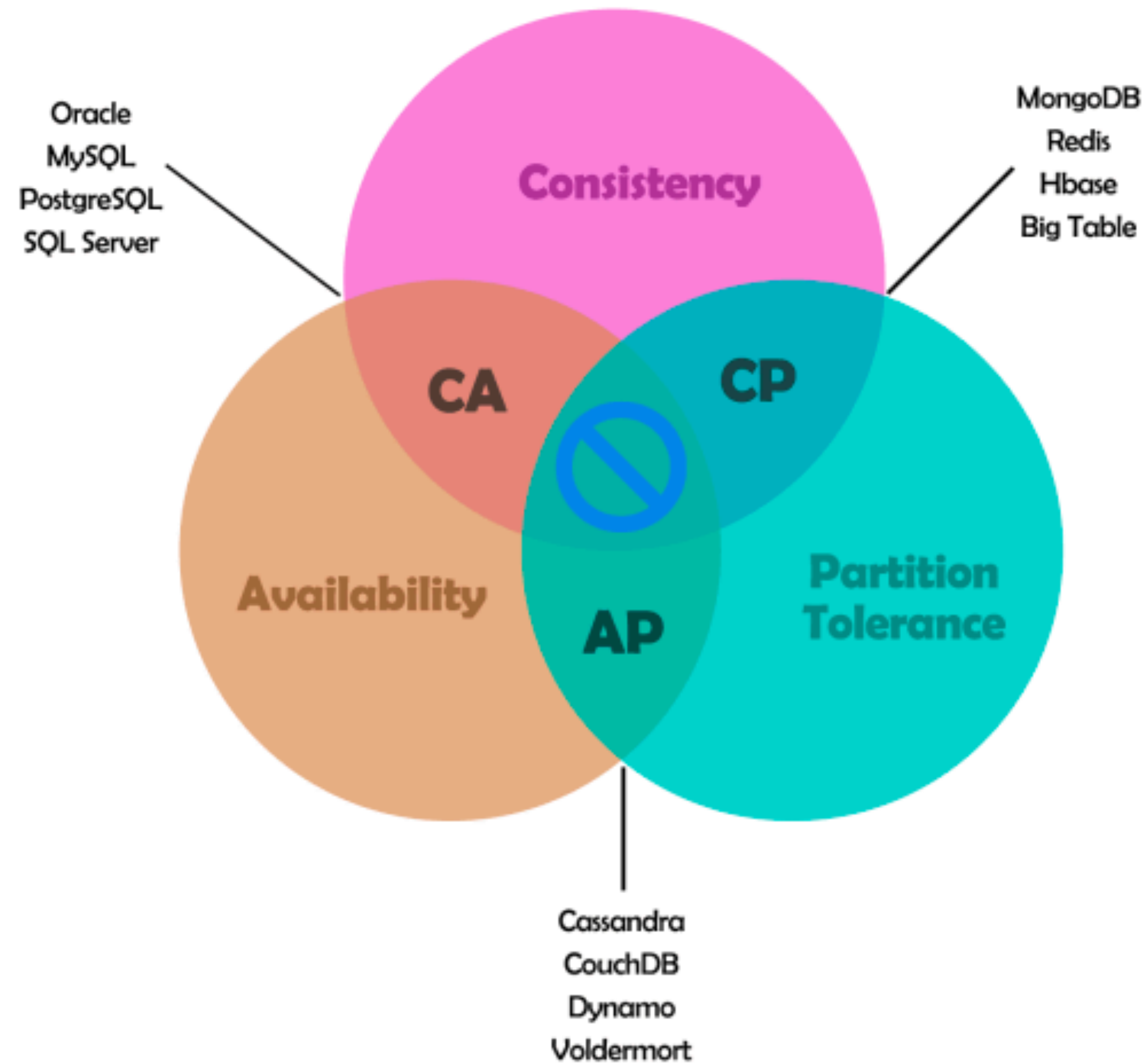


# Full-Text Search Engine



elastic

# Cap Theorem





# File Storage Services



Google Cloud Storage

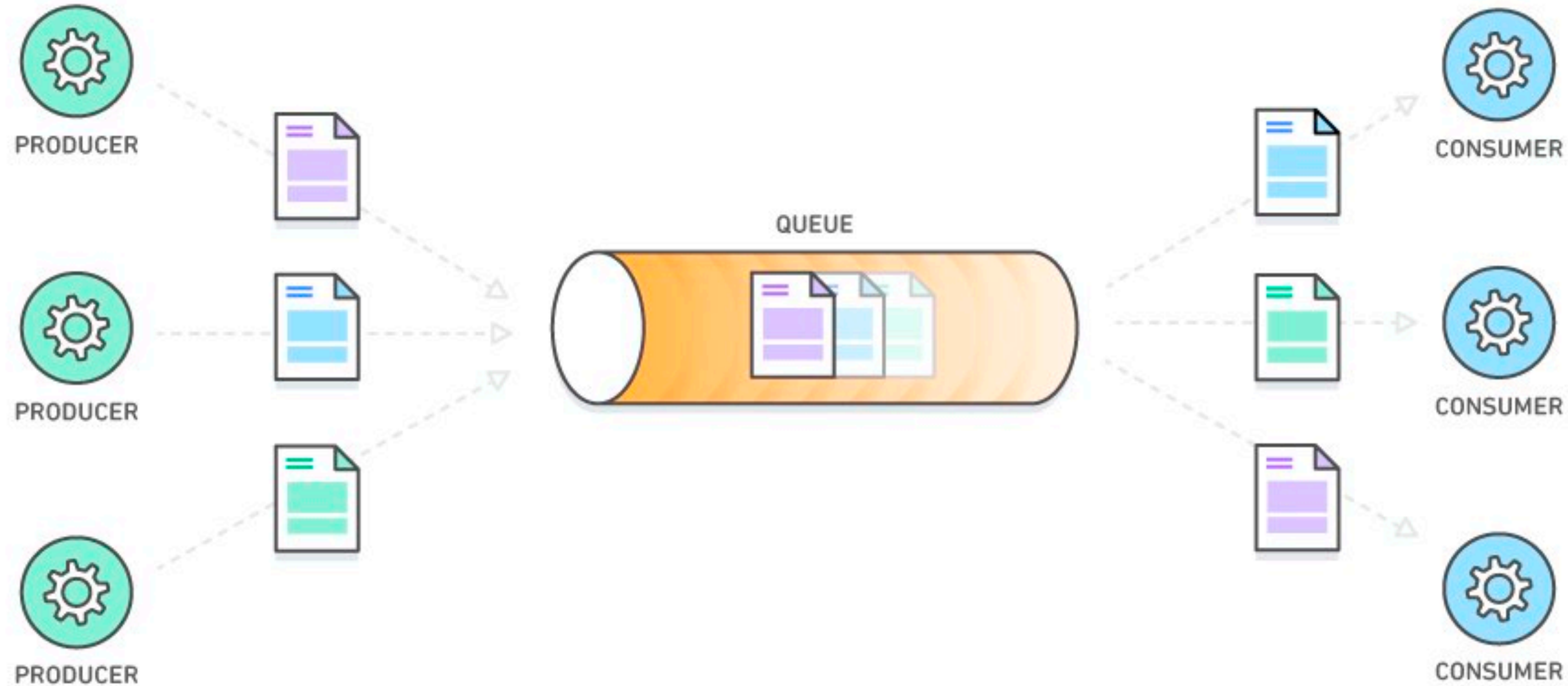


**amazon**  
web services



**S3**

# Messaging Queue





# Scalability

## Vertical Scaling

( Increase size of instance (RAM , CPU etc.) )



## Horizontal Scaling

( Add more instances )

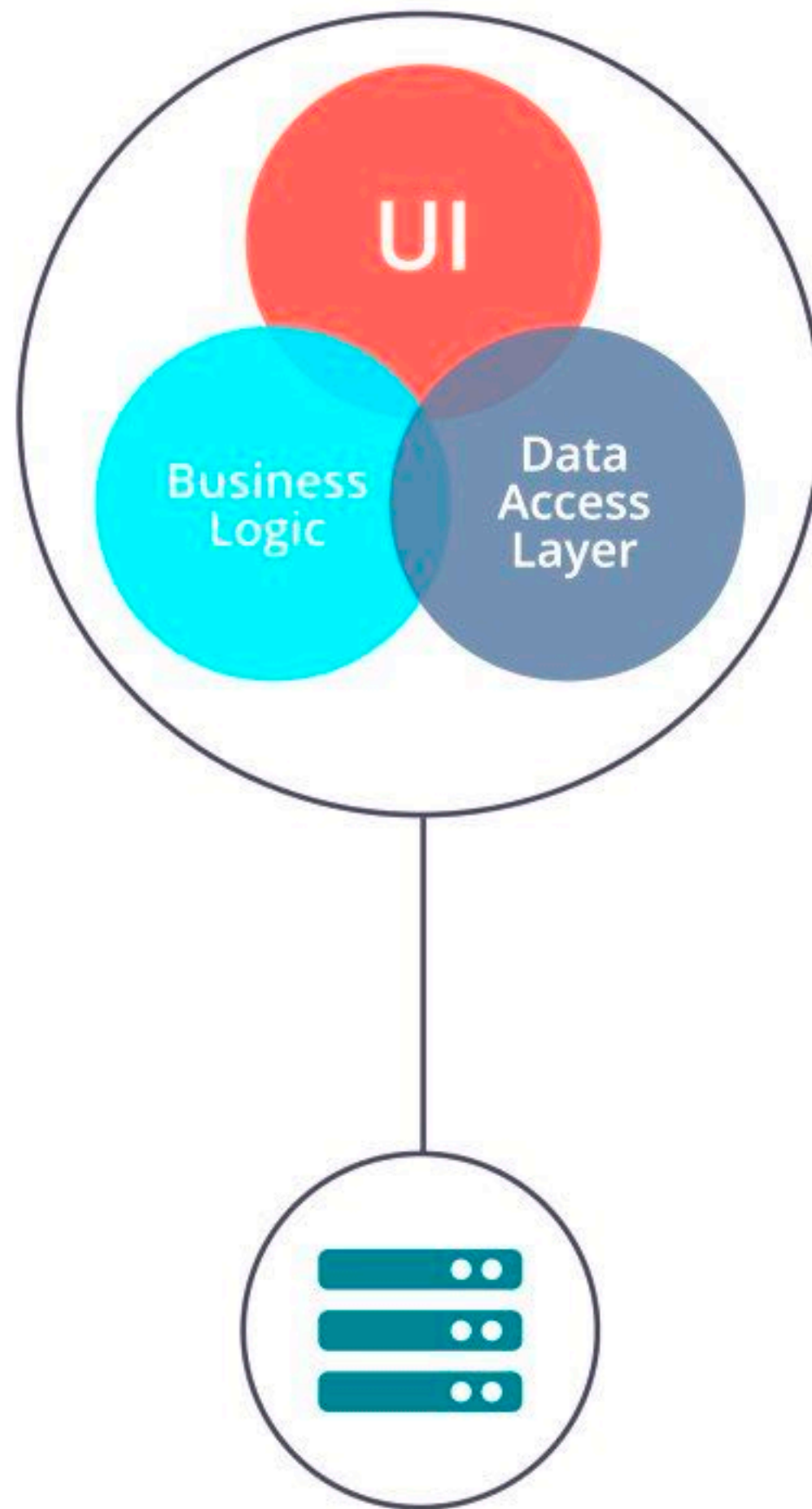


# External Services

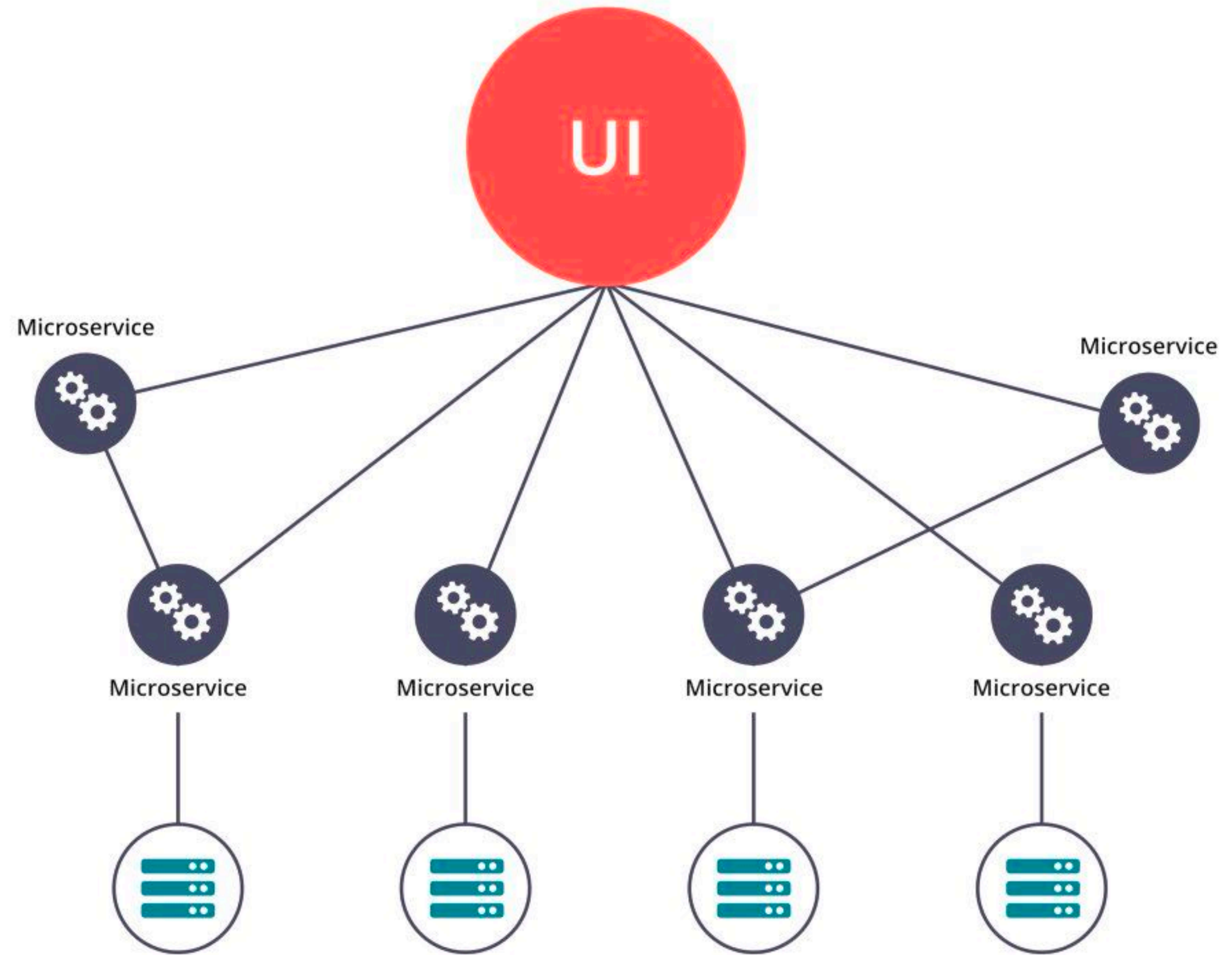




# Monolith vs Micro Services



Monolithic Architecture



Microservice Architecture