

Backend

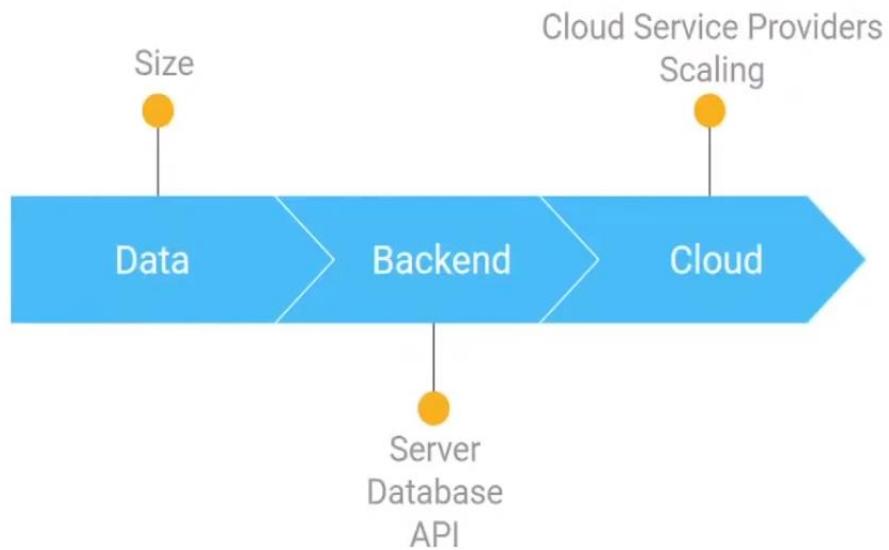
Intro to Backend

(Telugu)



Agenda For Today's Session

Introduction to Backend



Data



Backend

Data

Any information
that has to be stored

Ex: Text, Images, Audio,
Video, etc.

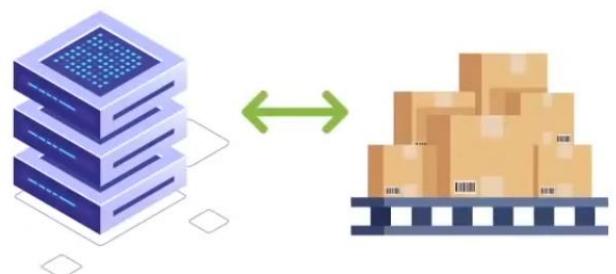


Data

Space

Similar to how cargo has volume
and occupies space,

Data also has size
and occupies space
on the storage device



Units of Measurement

Data - Size

Space occupied by data
is measured in the units of
Bits and Bytes

1 Byte	8 Bits
1 Kilobyte	1024 bytes
1 Megabyte	1024 Kilobytes
1 Gigabyte	1024 Megabytes
1 Terabyte	1024 Gigabytes

Real-world Data Sizes

In This Example

Data Size of Text ~ 200 Bytes

Data Size of Image ~ 200 KB



Units of Measurement

Real-world Data Sizes

In every product page on Amazon, you'll find

- 10+ images
- 100+ lines of text

Each page size is ~ 1.5 MB



Example - Amazon

Data Storage

Amazon's total data is in the order of Terabytes

A user sees only a few Megabytes everyday.

So, where is all this data stored?

amazon.com

350+ million
Products

10+ terabytes
data

Example - Amazon

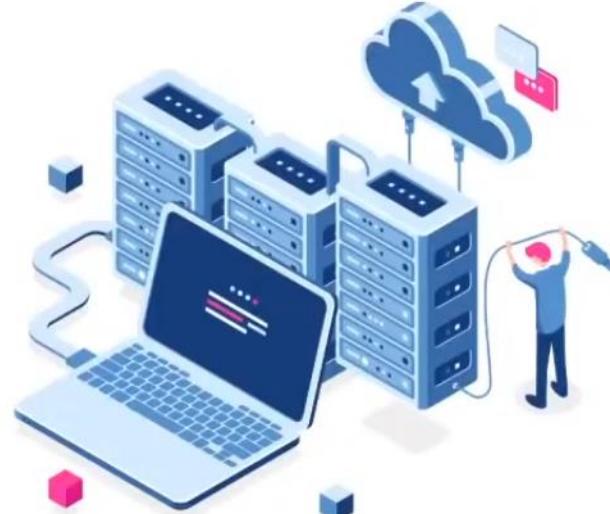
Data Updates

When an item goes out of stock, the data on Amazon webpage should change appropriately

- Change in Price
- Stock Availability
- New Product Launches



Backend



Backend

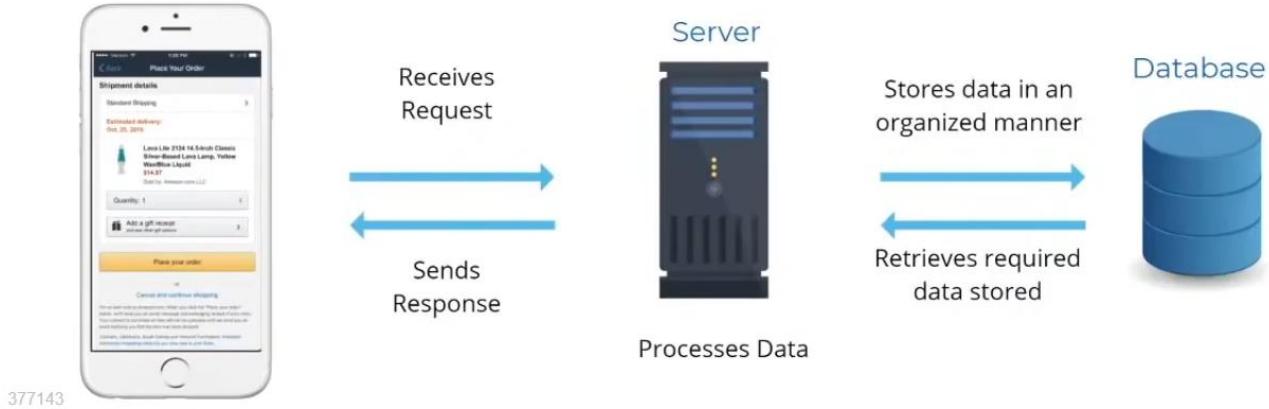
Database

Database makes it easy to deal with information (data)

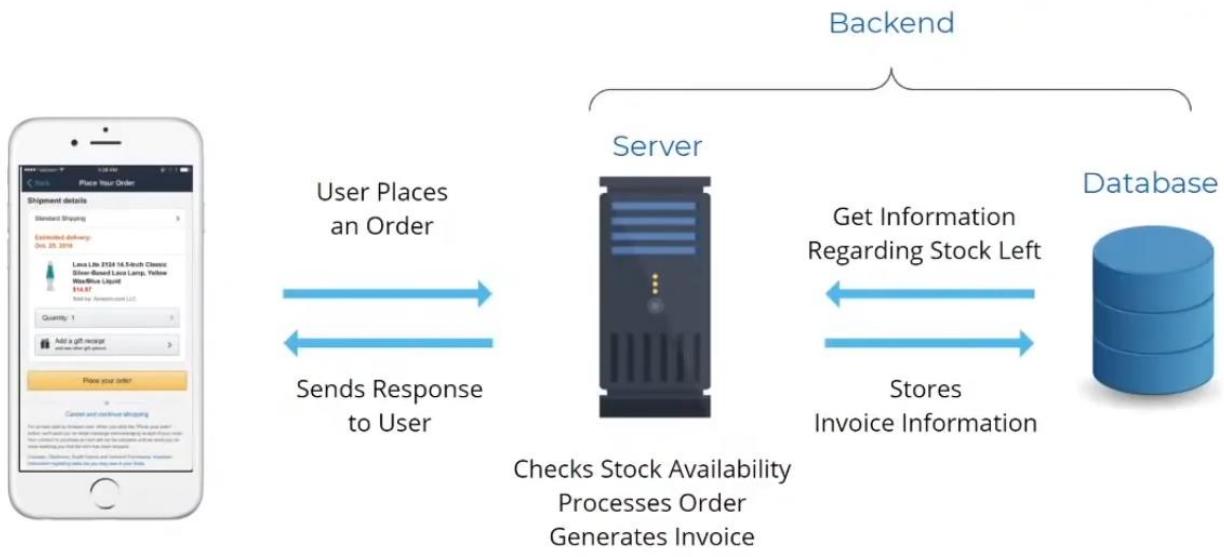
- Store
- Organize
- Access
- Update, etc.



Backend Overview



Example - Amazon Backend



Backend Server

Languages



Backend

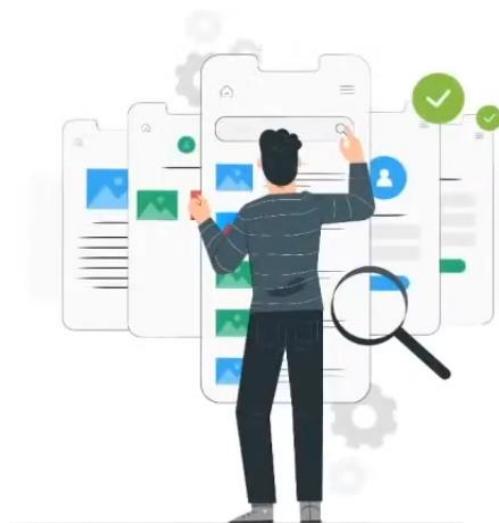
Databases



Bridge

User Interface

Users interact with software through User Interface (UI)



Bridge

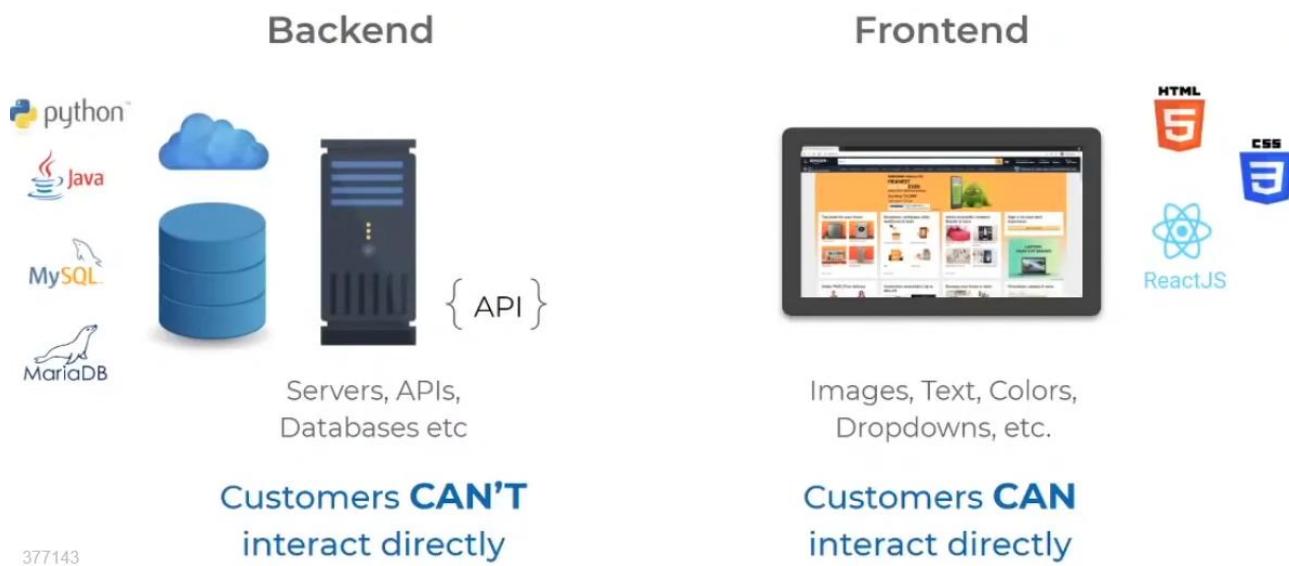
Application Programming Interface (API)

Applications interact with each other through Application Programming Interface (API)



Example - Amazon

Backend vs Frontend



Cloud



Cloud

What is Cloud?

Refers to

- Servers that are accessed over the Internet
- The softwares that run on those servers



Cloud

Cloud Computing

On-demand availability
of server system, of any size,
over the internet
at the click of a button
from your computer



Cloud

Scaling

On Great Indian Festival



Regular Day



Cloud

Affordable

Need 1000 servers for 2 hours ?

Get them for Rs. 1600 within 2 minutes.

Need 1000 servers for 1 year?

Get them for Rs. 72 lakhs

Cloud

Zero Risk

Cloud Service Provider takes care of

- Security
- Maintenance
- Purchasing Hardware
- Power and Internet Connection
- Replacing faulty hardware



Cloud

Scaling

On Great Indian Festival



Cloud

Cloud Service Providers



Microsoft Azure

Alibaba Cloud

Takeaways - Technical Words

- Data, Bits, Bytes
- Databases
- Backend
- API



Introduction to Tech

Takeaways - Technical Words

- Cloud
- Cloud Computing
- Scaling



Introduction to Tech

Takeaways - Concepts

- Backend
 - Database
 - Overview
 - Technologies
 - API
 - Backend vs Frontend



