

# Backend

377143

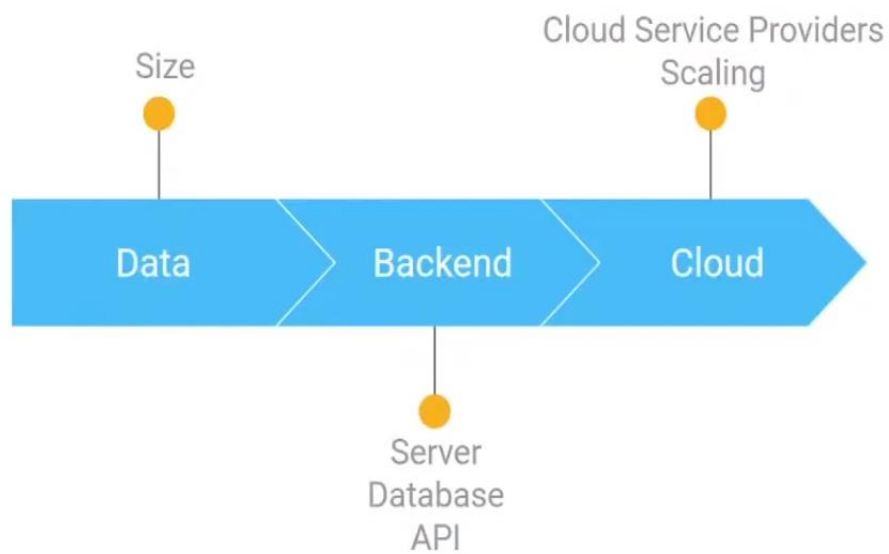
## Intro to Backend

(Telugu)



Agenda For Today's Session

## Introduction to Backend



## Data



## Data

Any information  
that has to be stored

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

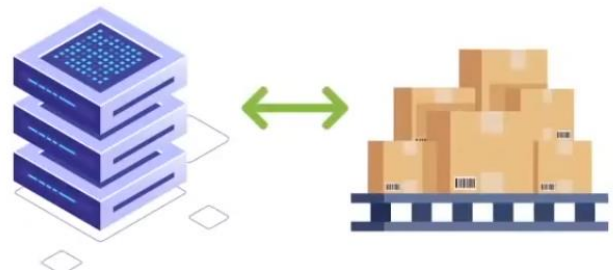


Data

## 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



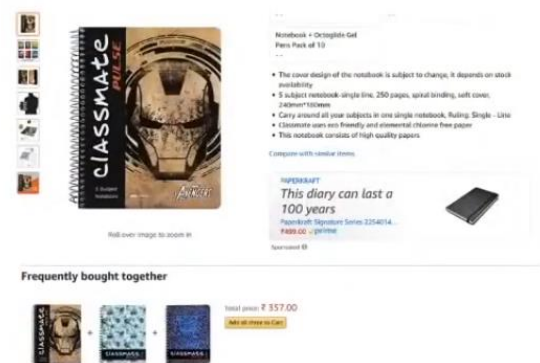
### Units of Measurement

## 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



Roll over image to zoom in

Classmate 2100128 Soft Cover 5 Subject Spiral Binding Notebook, Single Line, 250 Pages (Assorted cover design)

Visit the Classmate Store

★★★★☆ 396 ratings | 18 answered questions

M.R.P.: ₹410.00

Price: ₹ 105.00

You Save: ₹ 5.00 (5%)

3 Fulfilled FREE Delivery on orders over ₹ 499.00 . Details

INCLUSIVE OF ALL TAXES

Delivery by: Saturday, Sep 19 Details

No-Contact  
Delivery

10 Days  
Replacement

Amazon  
Delivered

In stock.

Sold by: Appas Retail Private Ltd and Fulfilled by Amazon.

New (3) from ₹ 105.00 & FREE Shipping on orders over ₹ 499.00

Save Extra with 4 offers

Bank Offer (2): Get 5% up to Rs. 1500 Instant Discount on Bank of Baroda Credit EMI transactions | See All

## Backend



Backend

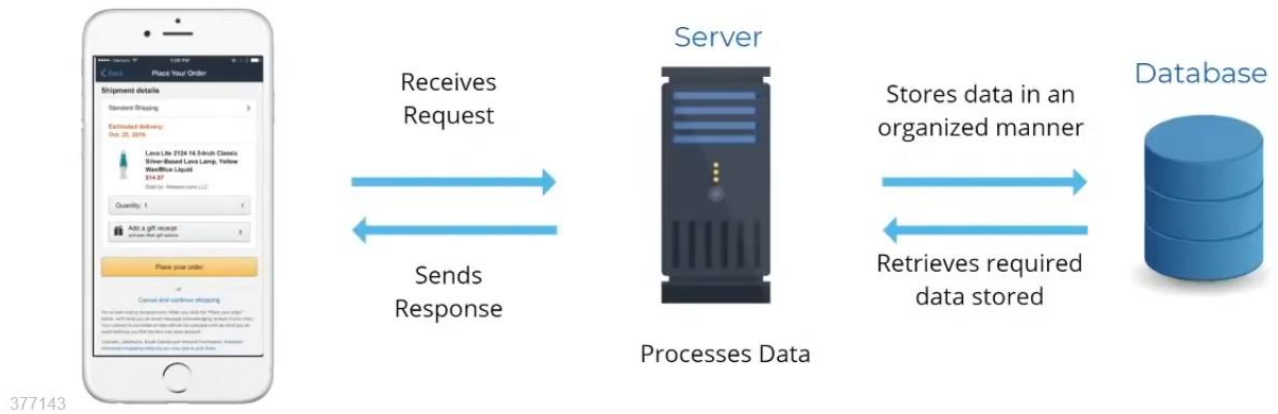
## Database

Database makes it easy to deal with information (data)

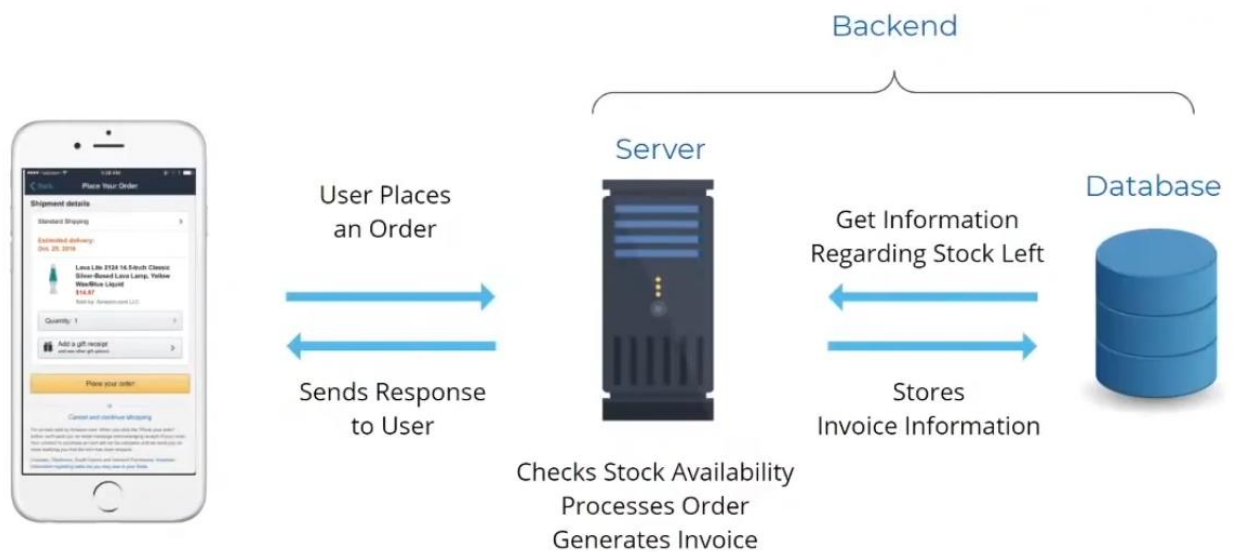
- Store
- Organize
- Access
- Update, etc.



# 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)



## Backend vs Frontend

### Backend



Customers **CAN'T**  
interact directly

### Frontend



Images, Text, Colors,  
Dropdowns, etc.

Customers **CAN**  
interact directly

377143

## 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



Regular Day



Cloud

## Cloud Service Providers



Microsoft Azure



## Takeaways - Technical Words

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



## Takeaways - Technical Words

- Cloud
- Cloud Computing
- Scaling



## Takeaways - Concepts

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



