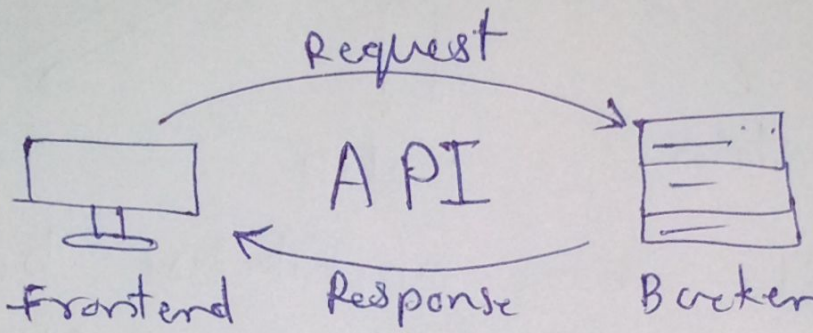
24 Nov. 2024

API INTRODUCTION

What is an API

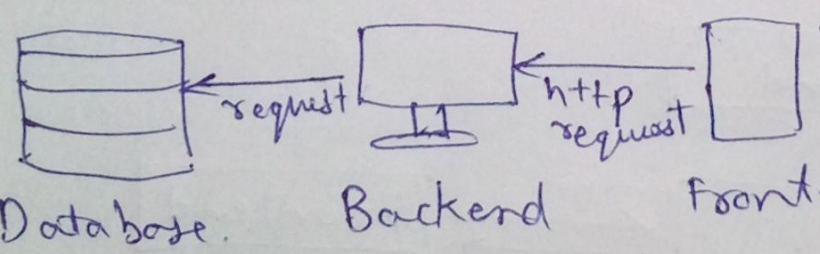
- APIs are mechanisms that enable two software components - such as the frontend and backend of an application - to communicate with each other using a defined set of rules, protocols, and data formats.



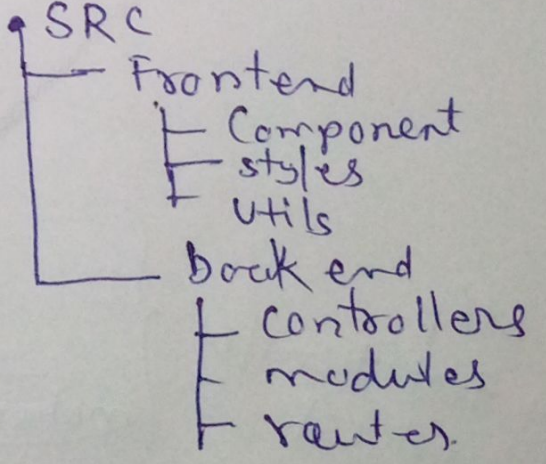
- we may say that API is the connector between the two pieces of the software.
- Real life analogy is Resturant.

Why we need API?

Let's take an example find the focus between the two cities.



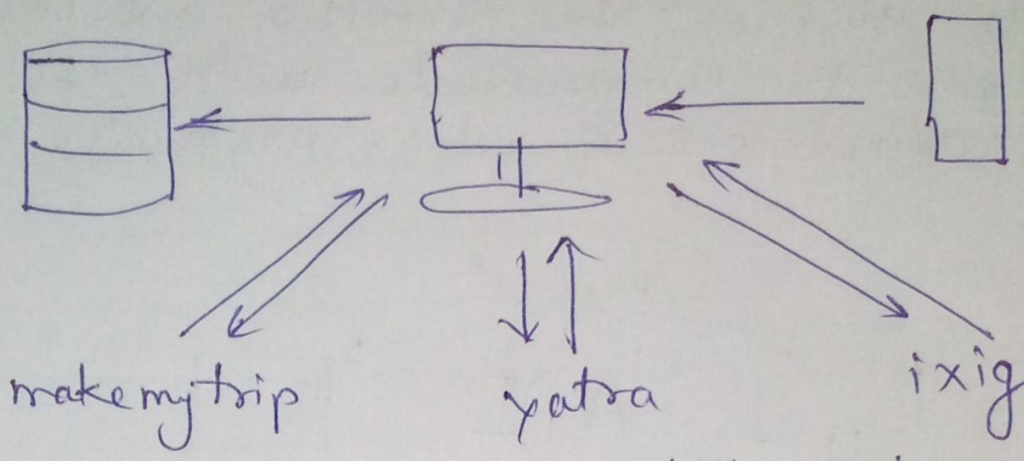
why this work.



- Here the frontend and backend are in the same folder ('src') hence they are tightly coupled and then it work this architecture called monolithic architecture
- The drawback of monolithic architecture is if there is issue occur in one file then it impact on whole application.
- They are tightly couple

- database are confidential we can't provid the direct access to the other compt company hence here comes API where grant a access of backend

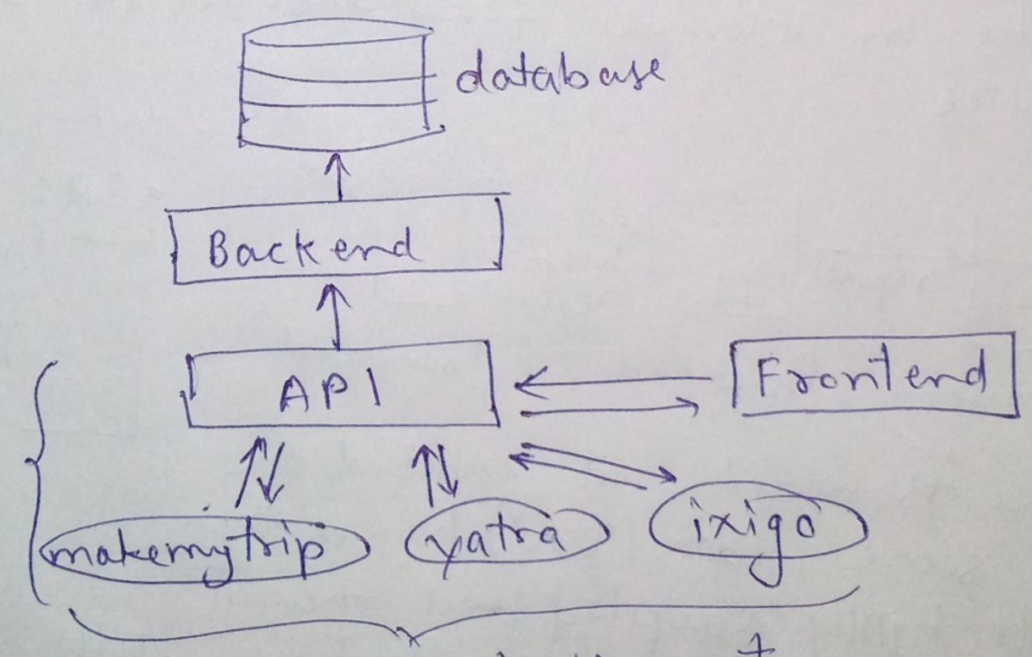
problem-1



- we can't use the above architecture because there is may be load increase on d.backend and if there is one on one application (any of 3) crash then other also face difficulty

How API solve this problem?

Solution-1

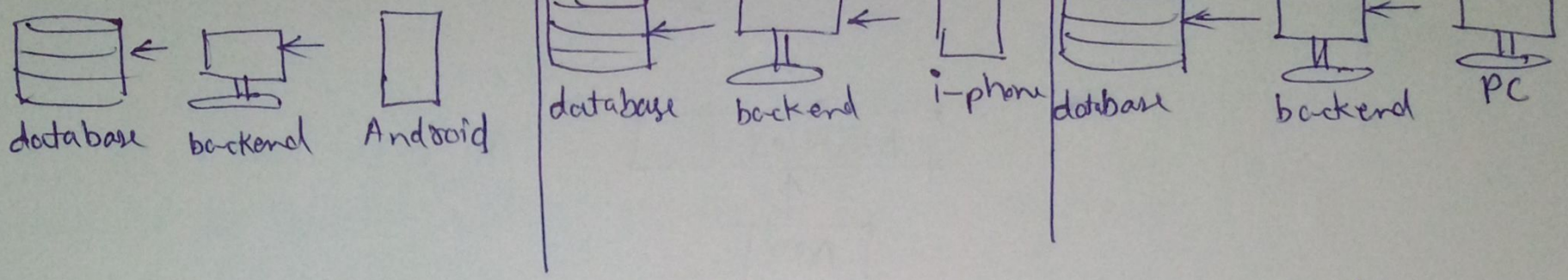


Question here why we use JSON?

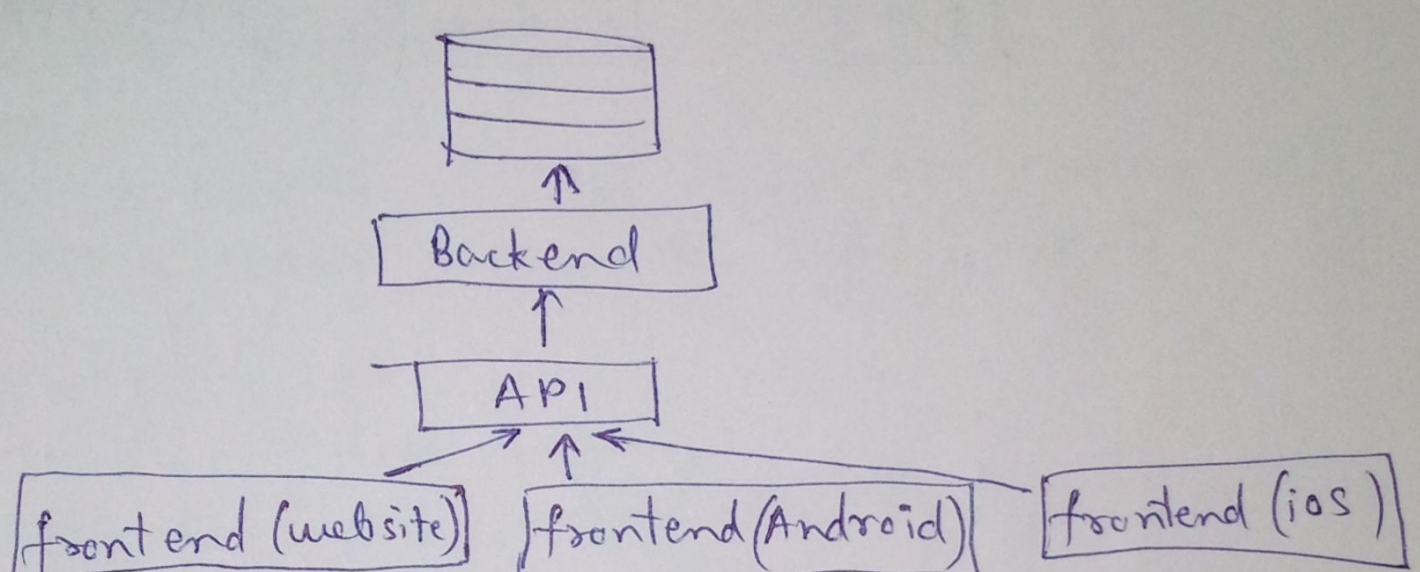
Ans because may be possible each application make up of different language. like JAVA, pytho, php here we have to provide the ~~info~~ information जो सभी application समझ पाए, hence we use universal format JSON

problem-2

here for each device we manage the there different monolithic architecture.

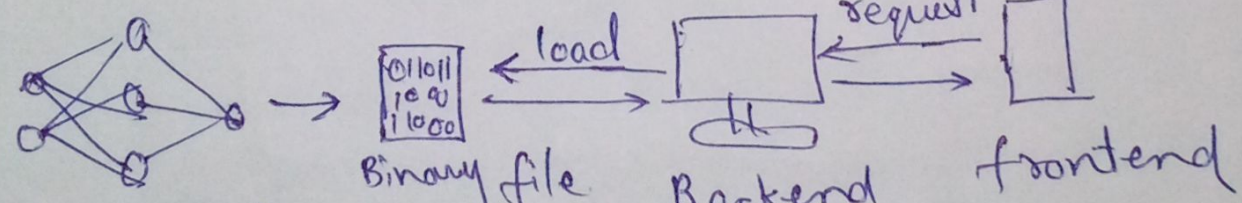


Solution-2 here we manage only one architecture/database



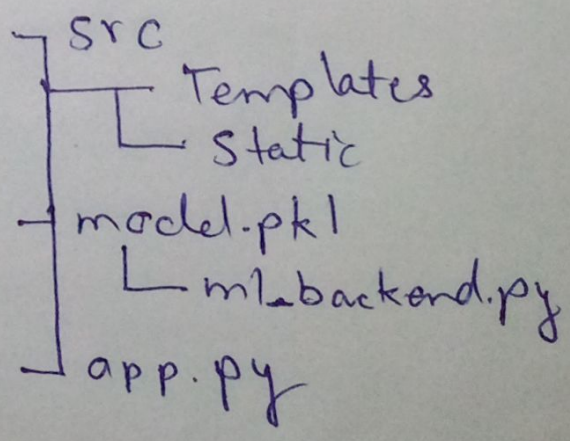
API - ML Perspective

(i) Before API Era:



trained ML Model

- example folder architecture.



- Here we used monolithic architecture

(ii) After API Comes: