Project Design Phase-I I

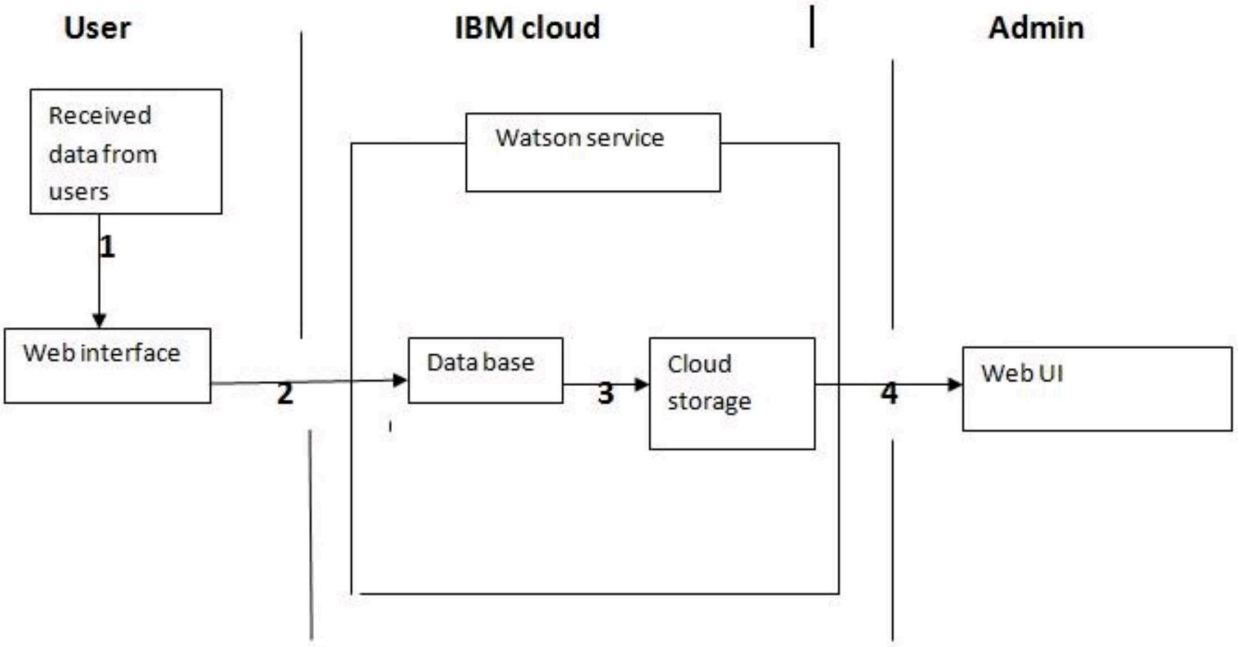
Technology Stack (Architecture & Stack)

Date	16 October 2022
Team ID	PNT2022TMID41264
Project Name	Project –Smart Solutions For Railway
Maximum Marks	4 Marks

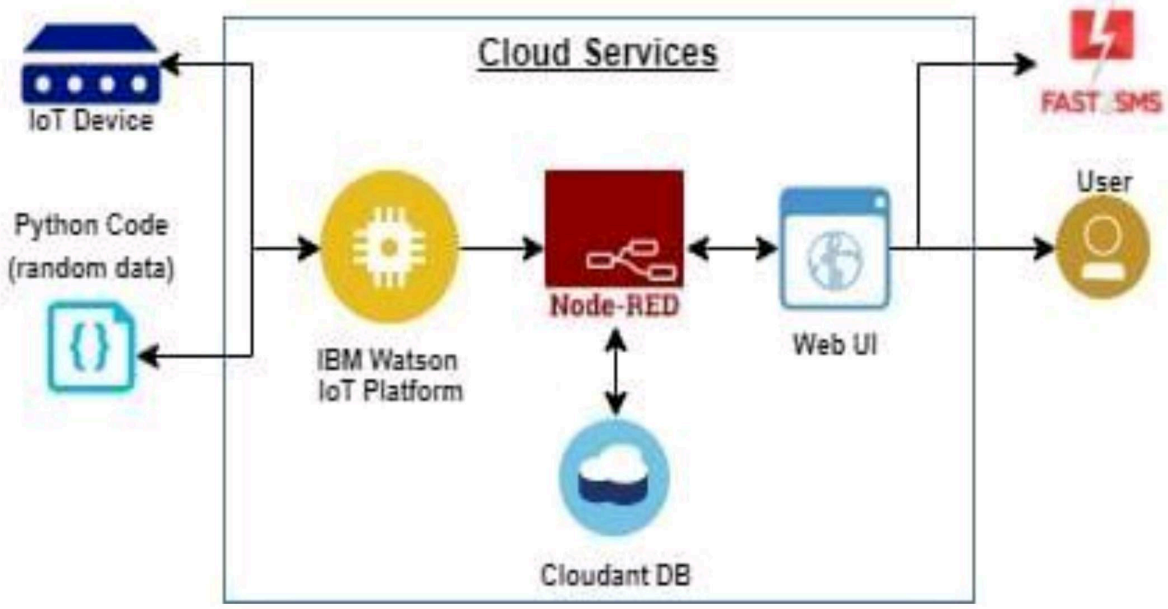
Summary

T his code pattern explains how the system gets the information from the users and updates the availability of the seats and accessed the whenever it needed.

Flow



Technical architecture



- A Web page is designed for the public where they can book tickets by seeing the available seats.

- After booking the train, the person will get a QR code which has to be shown to the Ticket Collector while boarding the train.

- The ticket collectors can scan the QR code to identify the personal details.
- A GPS module is present in the train to track it. The live status of the journey is updated in the Web app continuously

- All the booking details of the customers will be stored in the database with a unique ID and they can be retrieved back when the Ticket Collector scans the QR Code.

Component and technology

S.No	Component	Description	Technology
1	User Interface	user interacts with Web UI, Mobile App	Python script
2	Application Logic- 1	Tickes are booked based on availability	Java / Python
3	Application Logic-2	Cloud service	IBM Watson STT service
4	Application Logic-3	Node red and web interface	IBM Watson Assistant
5	Database	Data Type, Configurations etc.	Passengers data
6	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloudant etc.
7	File Storage	File storage requirements	IBM Block Storage or Other Storage
8	External API- 1	Security purpose and to access the system	Passengers detail are retrived when ticet collector scanning the QR code, etc.
9	External API-2	To access the system	Using specific unique ID generated while booking tickets, etc.
10	Machine Learning Model	To provide the data	Obeject Reognition model, etc.

11	Infrastructure (Server / Cloud)	Application Deployment on Railways booking System / Cloud Local Server Configuration: Cloud Server Configuration :	Local, Cloud Foundry, Kubernetes, etc.

Application Characteristics:

S.NO	Characteristics	Description	Technology
1.	Open-Source Frameworks	Availability of seats, Tracking the location of the train	Technology of Opensource framework
2.	Security Implementations	Passengers detail, QR code a nd IBM cloud and Watson account	e.g. SHA-256, Encryptions, IAM Controls, OWASP etc.
3.	Scalable Architecture	U pgrade	IBM cloud
4.	Availability	T he app contains the data of the customers and the location of the train can be tracked using GPS available in the train	GPS of the train, python script
5.	Performance	T he system continuo usly update the data	Mobile app, web UI