Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	03 October 2022
Team ID	PNT2022TMID18248
Project Name	Project – Smart Solution For Railways
Maximum Marks	4 Marks

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2

Example: Order processing during pandemics for offline mode

Reference: https://developer.ibm.com/patterns/ai-powered-backend-system-for-order-processing-during-pandemics/

Guidelines:

1. Include all the processes (As an application logic / Technology Block)
2. Provide infrastructural demarcation (Local / Cloud)
3. Indicate external interfaces (third party API's etc.)
4. Indicate Data Storage components / services
5. Indicate interface to machine learning models (if applicable)

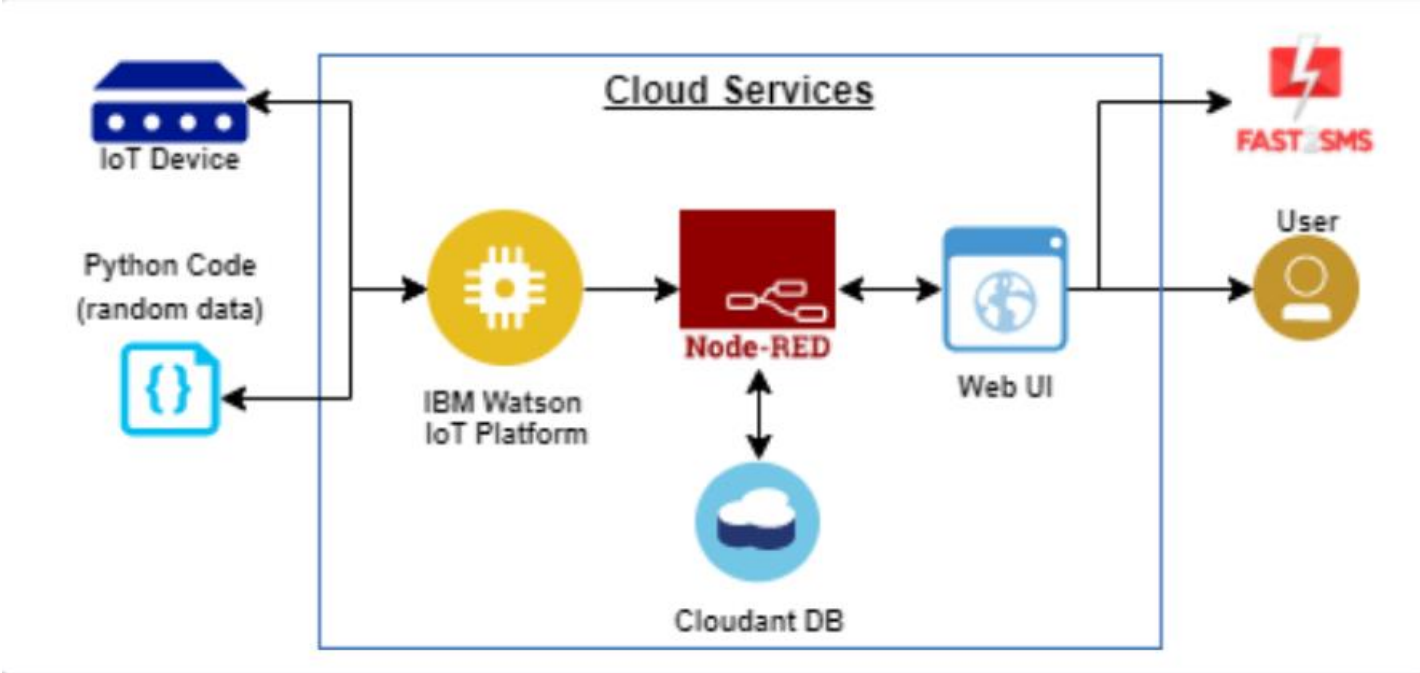

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	Web UI	The user can login to the website and book the tickets according to the availability of the seats.	HTML, CSS, JavaScript
2.	Cloud Servies	Details filled by the passenger will be stored in the cloud database.	Python
3.	GPS module	The live location of the train will be tracked and updated in website.	IBM Watson STT service, python
4.	External API-1	To display the live location of the train in website	Location API

5.	Data Processing	The ticket is verified by scanning the QR code	Python, IBM cloud

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	CSS, Backend framework	Python, IBM cloudant DB
2.	Security Implementations	The user's data is encrypted using the AES algorithm.	Python, Cloud service
3.	Scalable Architecture	Since it uses cloud for storage it is highly scalable.	Cloud Service
4.	Availability	The ticket booking website is available at any time.	IBM load Balancer
5.	Performance	The user details are stored in cloud so there won't be loss of data and the live location of the train is updated continuously.	Cloud service, GPS tracker

References:

https://c4model.com/

https://developer.ibm.com/patterns/online-order-processing-system-during-pandemic/

https://www.ibm.com/cloud/architecture

https://aws.amazon.com/architecture

https://medium.com/the-internal-startup/how-to-draw-useful-technical-architecture-diagrams-2d20c9fda90d