

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

Date	27 October 2023
Team ID	Team-592212
Project Name	Project - AI-Driven Optimization Of 5G Resource Allocation For Network Efficiency
Maximum Marks	4 Marks

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table2

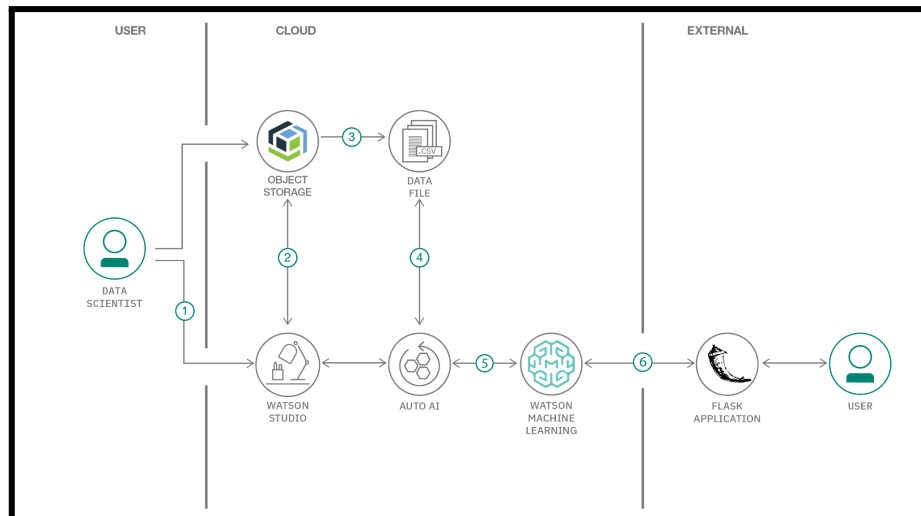


Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Web App UI	HTML, Flask
2.	Application Logic-1	Develop ML model	IBM Watson STT service
3.	Application Logic-2	Facilitate development	Python
4.	Application Logic-3	Build conversational interface	IBM Watson Assistant
5.	Database	.csv file	MySQL.
6.	Cloud Database	Database Service on Cloud	IBM DB2
7.	File Storage	File storage requirements	IBM Object Storage
8.	External API-1	Clean, prepare and analyze raw data	IBM Auto Ai.
9.	External API-2	Deploy and Manage ML Model	Watson Machine Learning
10.	Machine Learning Model	5G Resource allocation	CNN Model, etc.
11.	Infrastructure (Server / Cloud)	Cloud Server Configuration : compute - 16GB, storage - 70GB, bandwidth - 100Mbps rate-limited.	Cloud Foundry

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Python based web framework	Flask
2.	Security Implementations	Encryption,access controls, Data Security.	SHA-256, IAM Controls, Guardium
3.	Scalable Architecture	Vertical and Horizontal Scaling	Cloud Extender

S.No	Characteristics	Description	Technology
4.	Availability	According to the need of the user	Flask web application
5.	Performance	Load time , CPU Utilization , Network performance	APM(Application Performance Management)