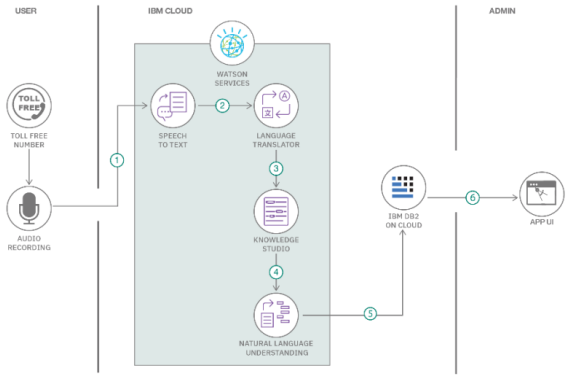
Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	14 Feb 2036
Team ID	LTVIP2026TMIDS73343
Project Name	Heart Disease analysis
Maximum Marks	4 Marks

Technical Architecture:



Guidelines:

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

S.No	Component	Description	Technology
1.	User Interface	Web-based interface for doctors and patients.	HTML, CSS, JavaScript, Bootstrap
2.	Application Logic-1	Back-end server to process requests and routes.	Python / flask
3.	Application Logic-2	Manages clinical data fetching and filtering.	Python (MySQL Connector)

4.	Application Logic-3	Embeds interactive visuals into the web app.	Tableau
5.	Database	Secure storage for patient clinical records.	MySQL data base
6.	Cloud Database	Remote backup for project scalability.	IBM Cloudant
7.	File Storage	Storage for clinical datasets and exported reports.	Local Filesystem
8.	External API-1	Provides real-time health news or alerts..	Healthcare News API
9.	External API-2	Used for user identity verification.	Google OAuth API
10.	Machine Learning Model	Predicts heart disease risk percentages.	Scikit-learn (Random Forest Model)
11.	Infrastructure (Server / Cloud)	Local hosting environment for development and testing.	Local Host (127.0.0.1:5000).

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Built using open-source Python libraries.	Flask, SQLAlchemy
2.	Security Implementations	Secure access to patient data via SQL queries.	MySQL Authentication
3.	Scalable Architecture	Capable of handling larger medical datasets.	MySQL / Flask
4.	Availability	Accessible 24/7 on the local clinical network.	Local Development Server
5.	Performance	Optimized charts for rapid risk assessment.	Tableau