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

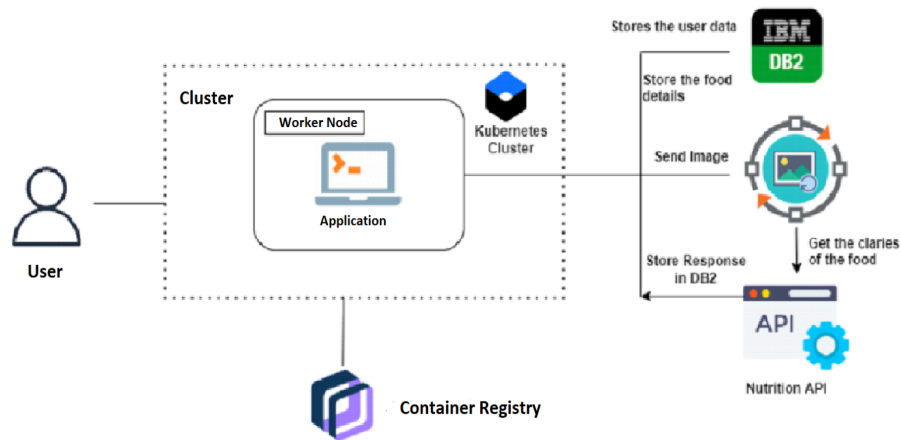| Date	12 November 2022
Team ID	PNT2022TMID43545
Project Name	Project - Nutrition assistant Application
Maximum Marks	4 Marks

Technical Architecture:

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	user interacts with application Web UI	HTML, CSS, JavaScript
2.	Application Logic-1	Connection with database and external API's	Python Flask
3.	Application Logic-2	Integration of chatbot with application	IBM Watson Assistant
4.	Database	Data Type, Configurations etc.	MySQL
5.	Cloud Database	Database Service on Cloud – used to store user details for registration and login, and track diet history.	IBM DB2
6.	External API-1	This API is used to find the name of the food, for which the image has been uploaded	Clarifai AI – driven API
7.	External API-2	This API is used to find the recipe and Nutritional value present inside the food	Nutrition API (rapid API)
8.	Infrastructure (Server / Cloud)	Application Deployment To provide good performance and scalability	Kubernetes

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Flask is used for connecting database and external API's	Python flask
2.	Security Implementations	List all the security / access controls implemented, use of firewalls etc.	SSH
3.	Scalable Architecture	Presentation tier: user interface to login and upload meal image Application tier: Nutrition API, Clarifai API Database tier: IBM cloud DB2	HTML, CSS, JavaScript, flask, Kubernetes, IBM DB2
4.	Availability	Clustering improves availability. This can be achieved with the help of Kubernetes cluster.	Kubernetes
5.	Performance	By using cache and adding master nodes we can improve performance of the application.	Kubernetes