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

Date	18 October 2022
Team ID	PNT2022TMID35494
Project Name	Personal Expense Tracker application
Maximum Marks	4 Marks

Technical Architecture:

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

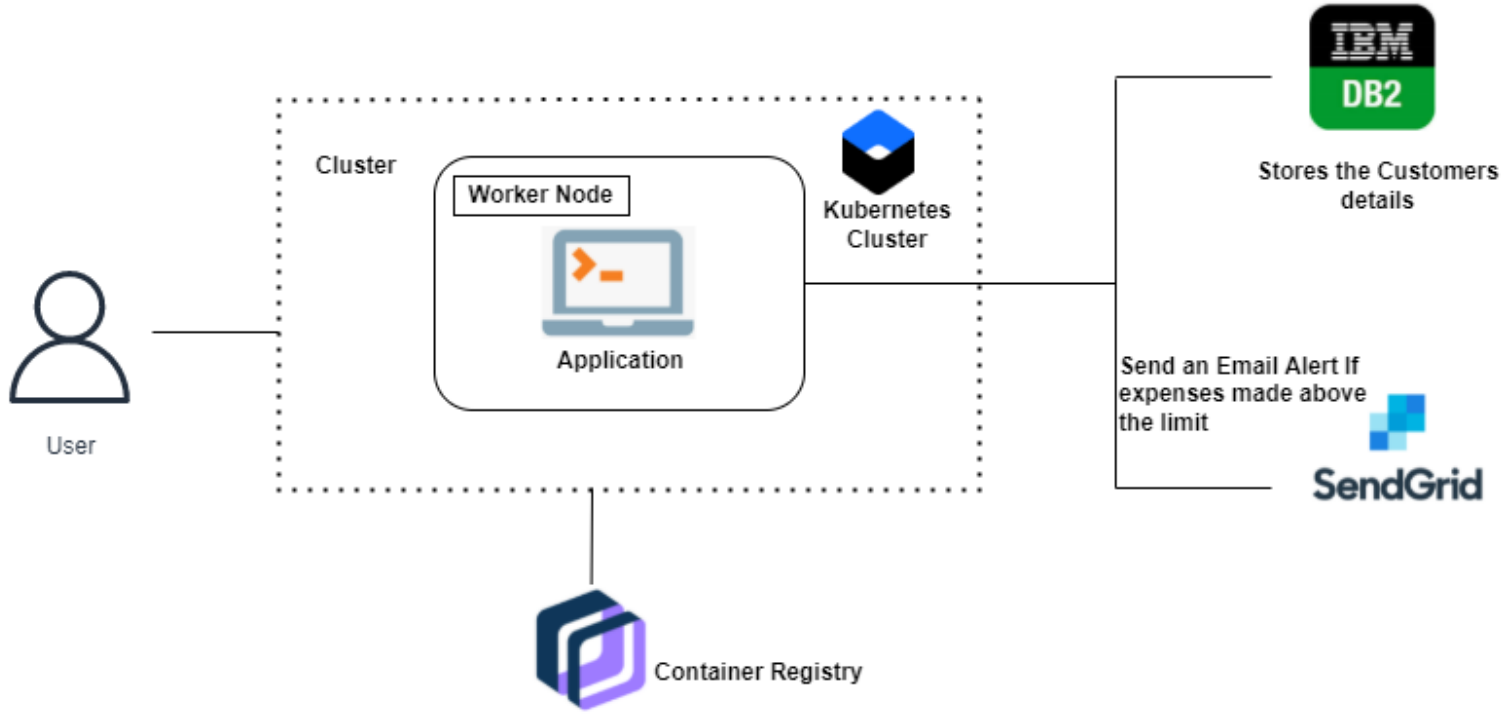

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application	HTML , CSS , Javascript , Python - Flask
2.	User Login	Users can login either using their gmail account or the app server account	Google OAuth for google sign in . Hashed password in DB
3.	Graph visualisation	Users will get the analysis of their expenditure in graphical forms	Seaborn , Mathplotlib
4.	Database	Data Type, Configurations etc	NoSQL database
5.	Cloud Database	Database Service on Cloud	IBM DB2 can be used to store user details and expense entries
6.	SendGrid	A cloud based SMTP is used to send email alert if user exceeds the spending limit without the need to maintain email servers	SendGrid is used to send an email alert to user if a particular condition (spending limit) is met.
7.	Google OAuth	OAuth 2.0 allows the user to share only specific data with the application . They can keep their personal information like username,passwords as private.	Allows login through gmail account
8.	Cloud Deployment	Application deployment done on cloud server	Docker , Kubernetes

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Flask - A python web framework, defined as microframework since it does not need particular tools / libraries	Python Flask Framework
2.	Security Implementations	Passwords cannot be shared as plaintext for secured usage so it is hashed.	BCrypt
3.	Scalable Architecture	Containerized application is deployed to rapidly increase scale on demand	Docker
4.	Availability and Performance	Kubernetes is an open-source container orchestration system for automating software deployment , scaling and management Enhances user experience	Kubernetes