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

Team ID	PNT2022TMID15814
Project Name	**Personal Expense Tracker Application**
Maximum Marks	4 Marks

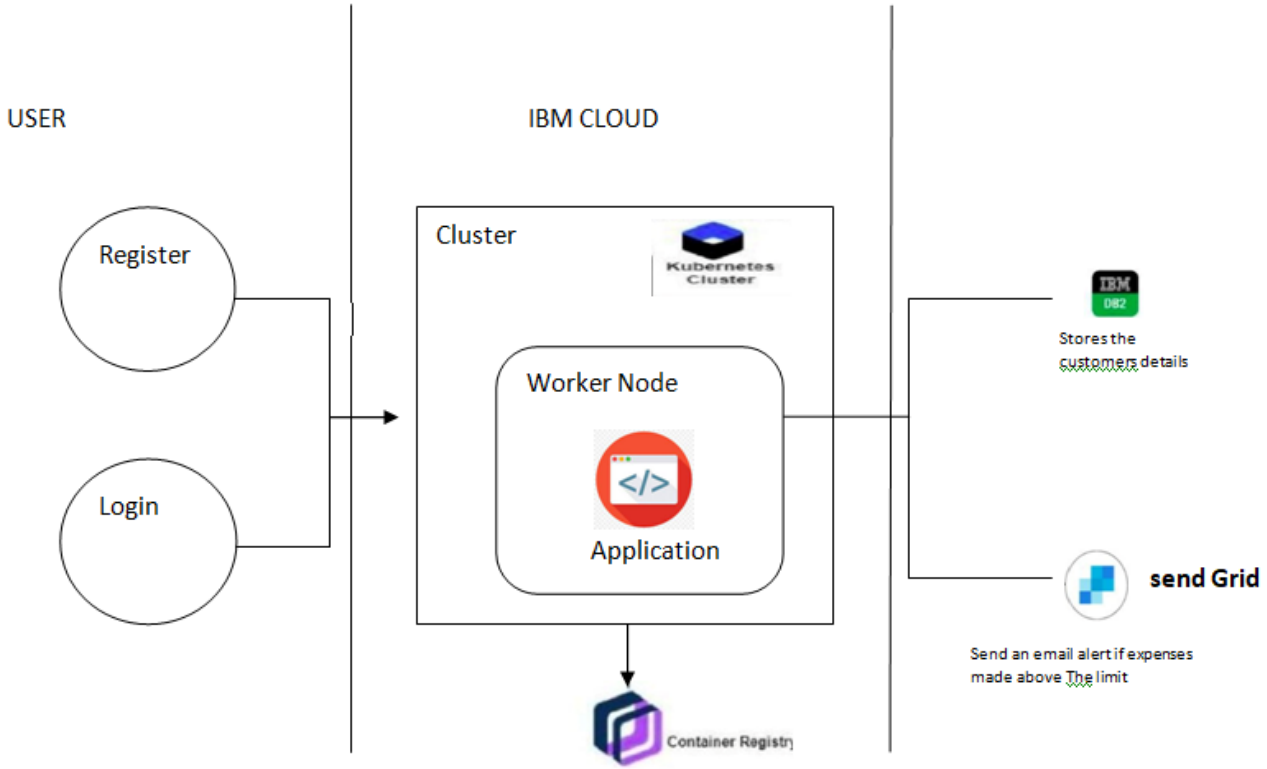

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Customer interaction with the application. e.g. Web UI, Mobile App, Chatbot etc.	HTML, CSS, JavaScript in Python Flask
2.	User login	The user can sign in using either their Gmail account or a server account for the app.	Google Oauth for Google Signin. Hashed password in DB
3.	Graph Visualisation	creating graphs and plots based on consumer expenditure information	Seaborn, Mathplotlib
4.	Database	Data Type, Configurations etc.	NoSQL database can be used as it promotes flexible structuring of data
5.	Cloud Database	Database Service on Cloud	The user information and the data entries are stored using IBM DB2.
6.	SendGrid	You can send email without needing to maintain email servers by using a cloud-based SMTP provider.	When a specific condition is met, SendGrid is utilised to send mail to user emails.
7.	Google OAuth	Users can share specified data with an application using OAuth 2.0 while maintaining the confidentiality of their usernames, passwords, and other personal data.	Enables access to the application by allowing login using a gmail account
8.	Cloud Deployment	OnCloud Server for Application Deployment	For deployment, Docker and Kubernetes are employed since they guarantee scalability and high availability.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Python-based Flask is a microweb framework. Due to the fact that it doesn't require any specific tools or libraries, it is categorised as a microframework.	Python Flask Framework
2.	Security Implementations	Because plaintext passwords cannot be saved, they must be hashed and salted.	BCrypt
3.	Scalable Architecture	Applications installed in containers are scaled up quickly to meet demand.	Docker
4.	Availability	An open-source container orchestration system called Kubernetes is used to automate the management, scaling, and deployment of software.	Kubernetes
5.	Performance	User experience is improved through availability and performance.	Kubernetes