

## Project Design Phase-I

### Solution Architecture

Date	18 November 2023
Team ID	Team-592013
Project Name	Online Payments Fraud Detection Using ML
Maximum Marks	4 Marks

### Solution Architecture:

The inclusion of diverse classification algorithms, such as Decision Tree, Random Forest, SVM, Extra Tree Classifier, and XGBoost Classifier, enhances the fraud detection model's accuracy by collectively capturing various fraud patterns. Model evaluation, focusing on accuracy, precision, recall, and F1-score, guides the selection of the most effective model for deployment. Serialization of the chosen model as a Pickle file streamlines the integration into the Flask application, ensuring an agile transition from training to deployment.

In developing the Flask web application, user experience, security in handling financial data, and efficient backend logic for input processing are critical. The user-friendly interface allows seamless input, and robust backend logic ensures accurate fraud prediction display, contributing to a trustworthy user interface. Leveraging IBM Cloud services, like Cloud Foundry or Kubernetes, bolsters scalability and reliability in deployment. These services provide a robust infrastructure, accommodating increased traffic and ensuring high availability, while proper configuration enhances the overall success of the fraud detection system.

## Example - Solution Architecture Diagram:

