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

Date	15 November 2022
Team ID	PNT2022TMID12637
Project Name	Project - Crude Oil Price Prediction
Maximum Marks	4 Marks

Technical Architecture:

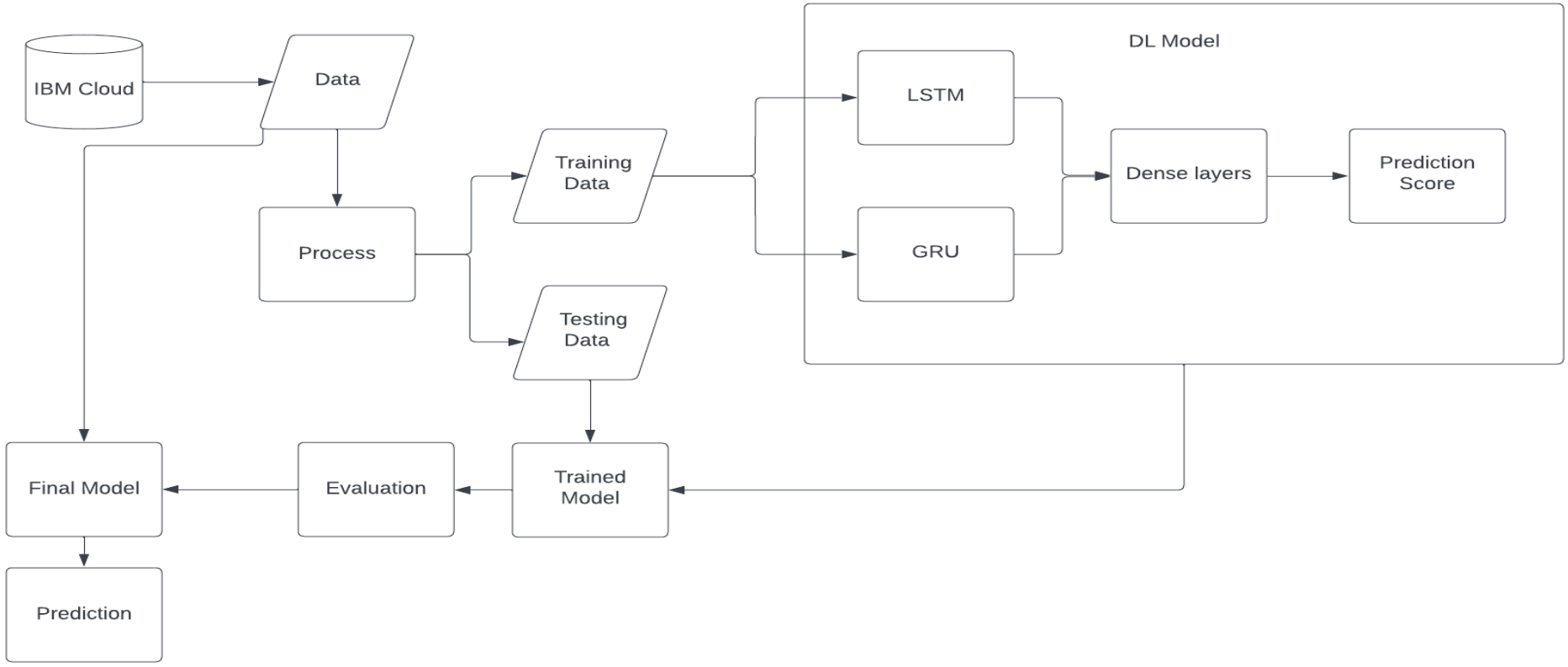

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application e.g. Web UI, Mobile App, Chatbot etc.	HTML, CSS, JavaScript / Flask
2.	Loading data	Converting the csv file to python object	Python
3.	PreProcessing of data	Pre Processing and normalizing the data to get accurate results	Python
4.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloudant etc.
5.	File Storage	File storage requirements	IBM Block Storage or Other Storage Service or Local Filesystem
6.	Machine Learning Model	Long short-term memory (LSTM) is an artificial neural network. Unlike standard feedforward neural networks, LSTM has feedback connections GRU Gated recurrent units is like a long short-term memory (LSTM) with a forget gate, but has fewer parameters than LSTM, as it lacks an output gate.	Object Recognition Model, etc.
7.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration: 2.5Ghz processor, 8 GB RAM Cloud Server Configuration : 4 GB GPU	Local, Cloud Foundry, Kubernetes, etc.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	List the open-source frameworks used	Flask
2.	Scalable Architecture	Justify the scalability of architecture (3 – tier, Micro-services)	Cloud Foundry, IBM Cloudant
3.	Availability	Justify the availability of application (e.g. use of load balancers, distributed servers etc.)	Cloud Foundry
4.	Performance	Design consideration for the performance of the application (number of requests per sec, use of Cache, use of CDN's) etc.	Cloud Foundry