

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

Date	13 October 2022
Team ID	PNT2022MID28677
Project Name	AI BASED DISCOURSE FOR BANKING INDUSTRY
Maximum Marks	4 Marks

Technical Architecture Steps:

1. User inquiries sent to the chatbot
2. The question is previewed by the bot.
3. The inquiry is sent to Watson Assistant.
4. The query is comprehended using Natural Processing Language.
5. The question is sent by Watson Assistant
6. Watson pulls pertinent information from a cloud database.
7. Cloud databases are used to store queries and responses (both sent and received).
8. The bank receives all inquiries and pertinent data for review.

Technical Architecture :

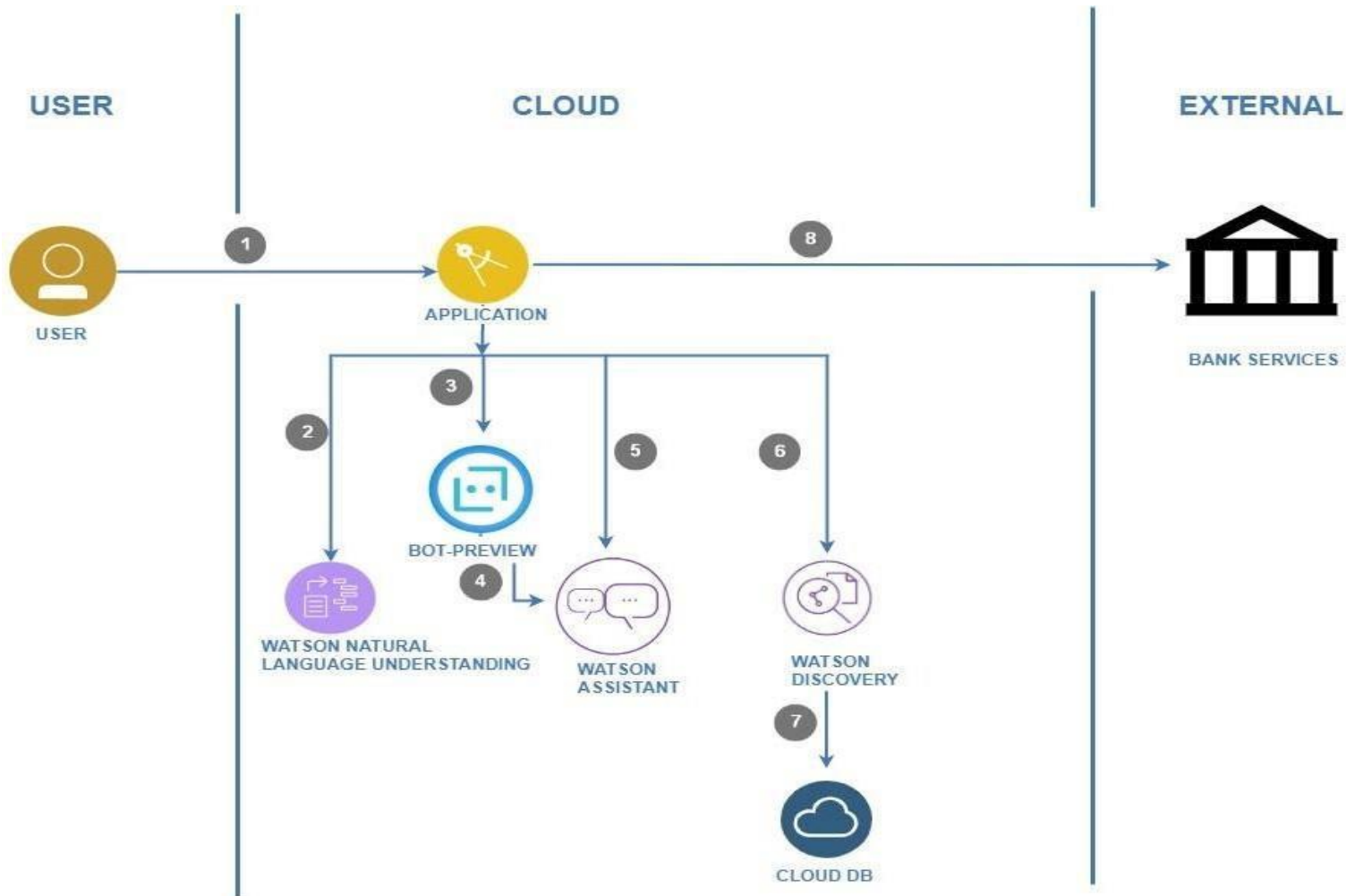


Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	Bot Preview	A simple page is presented to the user with a chat layout that has an input box field available to get user queries and preset options are presented for the user to select.	HTML, CSS, JavaScript
2.	Application Logic-1	An input bar is provided that enables the user to type queries.	Java / Python
3.	Application Logic-2	Regularly asked queries or options are presented to the user.	IBM Watson STT service
4.	Application Logic-3	Processes responses to custom queries and displays a relevant response.	IBM Watson Assistant
5.	Cloud Database	Queries and answers to queries are stored in the cloud and are accessed whenever a query is asked.	IBM Cloudant DB
6.	External API-1	It provides an interface between the application and the cloud to send the query from the application to the cloud.	Watson Assistant v2 API
7.	External API-2	A cloud based API that supports several cloud based applications and operations.	IBM Cloud API
8.	Deep Learning Model	It is trained with several queries and uses that knowledge to provide relevant responses to queries with a good enough accuracy.	Deep Learning
9.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration: Flask Application Cloud Server Configuration: IBM Cloud	Python Flask, IBM Cloud

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	List the open-source frameworks used	Python Flask, CSS Frameworks
2.	Security Implementations	General access control and the built-in security features of IBM Cloud are present.	IBM Watson Assistant, IBM Cloudant DB
3.	Scalable Architecture	The architecture consists of three tiers, the client side, the web server and the cloud server. Each of these can be scaled as per requirements.	Client Side: Flask (Python) Web Server: IBM Watson Assistant Cloud Server: IBM Cloud
4.	Availability	The chatbot is available around the clock on almost all devices that supports the internet browser.	IBM Cloud, Flask (Python)
5.	Performance	Responds to several thousands of the questions at the mean time.	IBM Load Balancer, IBM Cloud