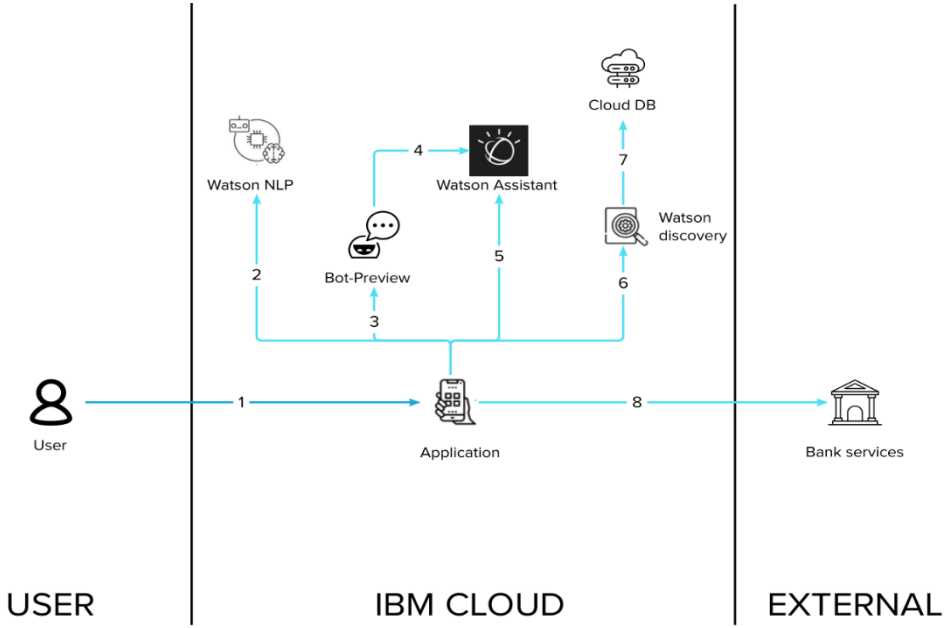
Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	17 October 2022
Team ID	PNT2022TMID38577
Project Name	Ai Based Discourse for Banking Industry
Maximum Marks	4 Marks

Technical Architecture:



Guidelines:

1.User queries to the chatbot using application.

2.Bot previews the queries.

3.Query is sent to Watson Assistant.

4.Natural Language Processing is used to understand the queries.

5.Watson Assistant accepts the query.

6.Watson Assistant finds the relevant response from cloud using Watson Discovery

7.The queries are stored in the cloud database for future use.

8.All queries and info are sent to bank for further processing.

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 totype queries.	Python
3.	Application Logic-2	Regularly asked queries or options are presentedto 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 thecloud and are accessed whenever a query is asked.	IBM Cloudant DB
6.	External API-1	It provides an interface between the applicationand the cloud to send the query from the application to the cloud.	Watson Assistant API, v2 runtime API
7.	External API-2	A cloud-based API that supports several cloud based applications and operations.	IBM Cloud API, Banking 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 Model, Intent Detection Model
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 ofthese 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 24/7 on almost all devices that support an internet browser.	IBM Cloud, Flask (Python)
5.	Performance	Responds to several thousands of queries at thesame time.	IBM Load Balancer, IBM Cloud