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| https://s3.amazonaws.com/upes-prod/media/7026/upes-logo.png  **Week 2 Continuous Evaluation (Architectural Styles)**  **Cloud Application Development**  **Submitted to**  **Saurabh Shanu sir**  **Submitted By**  Name: Rahul Khandelwal  Batch: B3 , CCVT(NH)  Sap Id: 500086812  Enrollment No: R2142201700 |

**QUES : As a final output of the project , you are expected to upload your designed applications on public cloud (AWS/Azure) and hence need to analyze and explain which application platform will you be following, and why?**

**ANS :**

**Application :** AWS-LEX BOT

**Cloud platforms :** There are many cloud platform where we can deploy the applications . Such as GCP , AWS or Azure . The choice of application deploying should be depends on the various factors including the specific requirement of the application , available resources and the development team expertise .

Common application platforms include PaaS , IaaS and Containerization . It is important to analysis the requirmenet of the application and determine the best solution(platform) for the needs .

**Application platform to be followed :** For AWS-LEX BOT , in this project AWS will be used as a platform for deploying it , as it is a PaaS based platform which gives pre-configured environment for developing , deploying and managing the application .This is less complex and highly managed .

The choice between AWS and Azure for deploying an AWS-LEX chatbot ultimately depends on the specific requirements of the project, budget, and preferences.Amazon Web Services (AWS) is a widely popular cloud computing platform and has a strong offering for chatbots, including AWS-LEX. AWS provides a wide range of tools and services for building and deploying chatbots, including natural language and machine learning capabilities . Also , AWS has a strong track record of stability, security, and performance .

**AWS-LEX chatbots can be built using a combination of several AWS services, including :Amazon Lex:** This is the service that provides the NLP and ML capabilities for building chatbots. Amazon Lex is the foundation of AWS-LEX and is used to build, deploy, and manage chatbots.**Amazon Lambda:** This is a serverless computing platform that can be used to run code for the chatbot. Amazon Lambda provides the backend for chatbot, where we can write code to handle specific tasks or respond to specific user inputs.**Amazon S3:** This is a cloud storage service that can be used to store chatbot data and media. S3 can be used to store user data, chat logs, and other information related to your chatbot.**Amazon CloudWatch:** This is a monitoring service that provides logs and metrics for chatbot. CloudWatch can be used to track user interactions with chatbot, and provide insights into how chatbot is performing.**Amazon Connect:** This is used to integrate chatbot with the customer service operations. With this service , it can be used for chatbot to route customer inquiries to the appropriate customer service , or provide automated responses to common customer questions.**Amazon DynamoDB:** This is a NoSQL database service that can be used to store chatbot data. DynamoDB can be used to store user profiles, chat logs, and other information related to your chatbot.**Amazon SNS:** This is a messaging service that can be used to send notifications and alerts related to chatbot.

These are some of the AWS services that are commonly used with AWS-LEX, but other services may also be used, depending on the specific requirements of chatbot.

Such as Amazon Polly – which is used to recognize the user speech and gives the output based on the user’s input . Amazon Cognito , Amazon Mobile hub and amazon security are some of the services which can also be used further in the application(AWS-LEX BOT) .

**THE ARCHITECTURE USED BY THE AWS-LEX BOT :**

AWS-LEX BOT rely on the Distributed computing architecture of the AWS cloud platform which is used to handel multiple requests and provides faster and concurrent processing .

Whenever the user will interact with the chatbot , amazon lex will process the user input and gives the output . If the response is requesting additional processing , such as database query , or triggering a specific action , amazon lex triggers on aws lambda function .Then it runs on the aws cloud and scale automatically in response to increase demand .

AWS-LEX chatbots can handel multiple instructions at a same time and processing each request independently and gives the output parallerly . Thus distributed architecture provides the fast processing and reliable performance for the chatbot , even when the chatbot is dealingwith high user interaction .This ensures the high security and reliablility of the underlying data and infrastructure .

**THANK YOU.!**