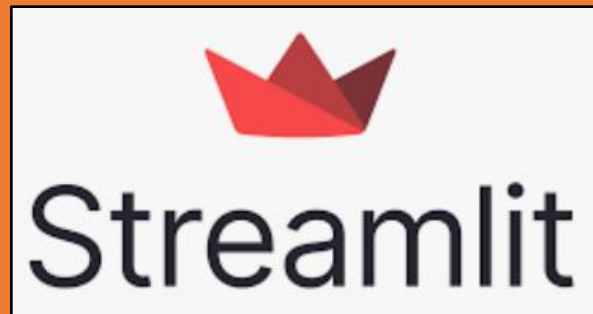


Use Case – Building a Chatbot



Building a Chatbot using Amazon Bedrock : Architecture

Chatbot using Amazon Bedrock – What we will build as part of Use Case

Hi, This is Chatbot Anisha 🧐



Hi



Hi, my name is AI. How can I assist you today? How can I help you?

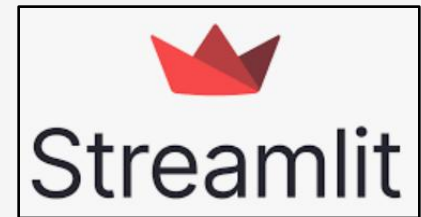


Where is Bengaluru ?

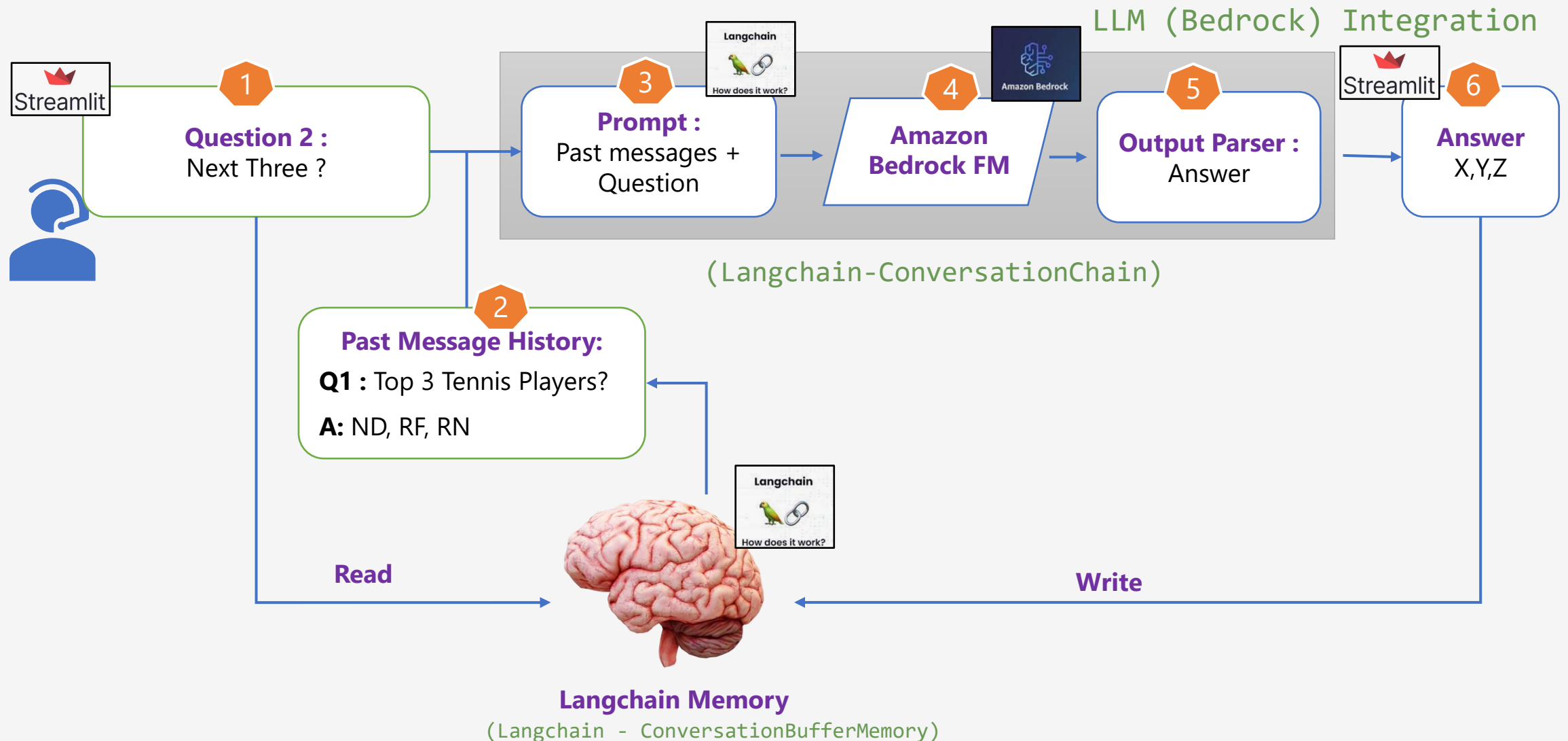


Bengaluru is the capital of Karnataka, a state in South West India.

Chat with Udemy Course bot here



Chatbot Architecture – Amazon Bedrock + Langchain + Streamlit



Pre-Requisites

*Building a **Chatbot** using Amazon Bedrock*

Pre-requisites – How to install

1/2

- Download VS Code - <https://code.visualstudio.com/download>
- Install Python - 3.12.4 ----> <https://www.python.org/downloads/windows/>
 - `python --version`
 - `pip --version`
- Install AWS CLI - <https://docs.aws.amazon.com/cli/latest/userguide/getting-started-install.html>
 - `aws -- version`
 - Extensions – AWS Toolkit and AWS Boto3
- Configure IAM Role for VSCode - <https://docs.aws.amazon.com/cli/latest/userguide/cli-configure-files.html>
 - Create IAM Role
 - `aws configure`
 - Provide credentials
 - `aws s3 ls`

Pre-requisites - How to install

2/2

- Anaconda Navigator Download - <https://docs.anaconda.com/free/anaconda/install/windows/>
- Open VS Code from Anaconda Navigator – **Very Important**
- Install boto 3 - `pip install boto3==1.37.11`
- Install Langchain – `pip install langchain==0.3.0`
- Install Langchain-AWS Module – `pip install -U langchain-aws`
- Install Streamlit – `pip install streamlit==1.43.1`
- Install Transformers - `pip install transformers`
- Install PyYAML - `pip install PyYAML`

Coding Steps

*Building a **Chatbot** using Amazon Bedrock*

Steps in Building Chatbot – Chatbot Backend Code

#1 import the ConversationSummaryBufferMemory, ConversationChain, ChatBedrock or ChatBedrockConverse Langchain Modules

#2a Write a function for invoking model- client connection with Bedrock with profile, model_id & Inference params- model_kwargs

#2b Test out the LLM with invoke method

#3 Create a Function for ConversationBufferMemory (llm and max token limit)

#4 Create a Function for Conversation Chain - Input text + Memory

#5 Chat response using invoke (Prompt template)

#Links :

<https://docs.aws.amazon.com/bedrock/latest/userguide/conversation-inference-call.html>

https://docs.aws.amazon.com/bedrock/latest/APIReference/API_runtime_Converse.html

<https://docs.aws.amazon.com/bedrock/latest/userguide/conversation-inference-call.html>

Converse API

Set the model ID, e.g., DeepSeek-R1 Model.

```
model_id = "us.deepseek.r1-v1:0"
```

Start a conversation with the user message.

```
user_message = "Type_Your_Prompt_Here"
```

```
conversation = [ { "role": "user", "content": [{"text": user_message}], } ]
```

#Converse URL

[#https://docs.aws.amazon.com/bedrock/latest/userguide/conversation-inference-call.html](https://docs.aws.amazon.com/bedrock/latest/userguide/conversation-inference-call.html)

[#https://docs.aws.amazon.com/bedrock/latest/APIReference/API_runtime_Converse.html](https://docs.aws.amazon.com/bedrock/latest/APIReference/API_runtime_Converse.html)

[#https://docs.aws.amazon.com/bedrock/latest/userguide/conversation-inference-call.html](https://docs.aws.amazon.com/bedrock/latest/userguide/conversation-inference-call.html)

Steps in Building Chatbot – Chatbot Frontend Code

- How to Run Chatbot locally
 - `streamlit run <frontend_filename>.py`