aws INNOVATE

MODERN APPLICATIONS EDITION

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Smart interview bot using deep learning

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Challenges

- "Work From Home" is the new norm

- Scheduling interviews

- Time to revert with interview result

- Conducting interviews at scale

- Consistency in candidate screening approach

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How are we addressing this ?

- Interactive virtual interview user experience

- Automate the evaluation of candidate's subjective answers using machine learning

- Near real-time evaluation at scale

- Bring in efficiency and consistency in evaluation

- Continuously improve the model inferencing accuracy

Key AWS services used

- Amazon SageMaker – enables you to build, train and and deploy your ML models

- Amazon DynamoDB - persists data related to candidate and the interview

- Amazon Simple Queue Service (Amazon SQS) & AWS Lambda - helps you decouple services

- Amazon Lex - helps orchestrate the conversation

- Amazon Sumerian - plays the role of interview host

Interview evaluation solution
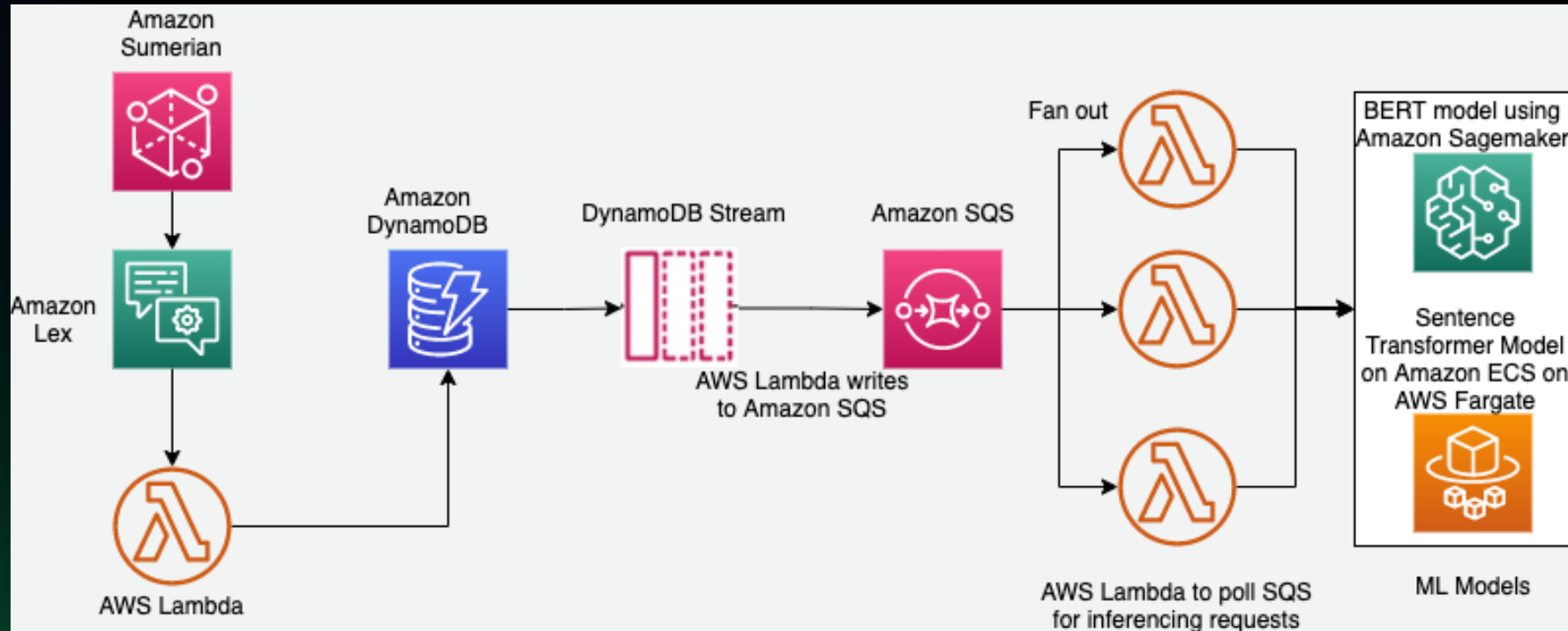
- Amazon Sumerian host will interact with the user and captures interview answers
- Amazon Sumerian will post the recorded answer to Amazon Lex bot, which in turn invokes a AWS Lambda function
- AWS Lambda to push the request to Amazon SQS
- AWS Lambda attached to the Amazon SQS will be triggered
- Inference results will be updated back in Amazon DynamoDB

Demo – Amazon Sumerian host interview

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Admin/evaluator application
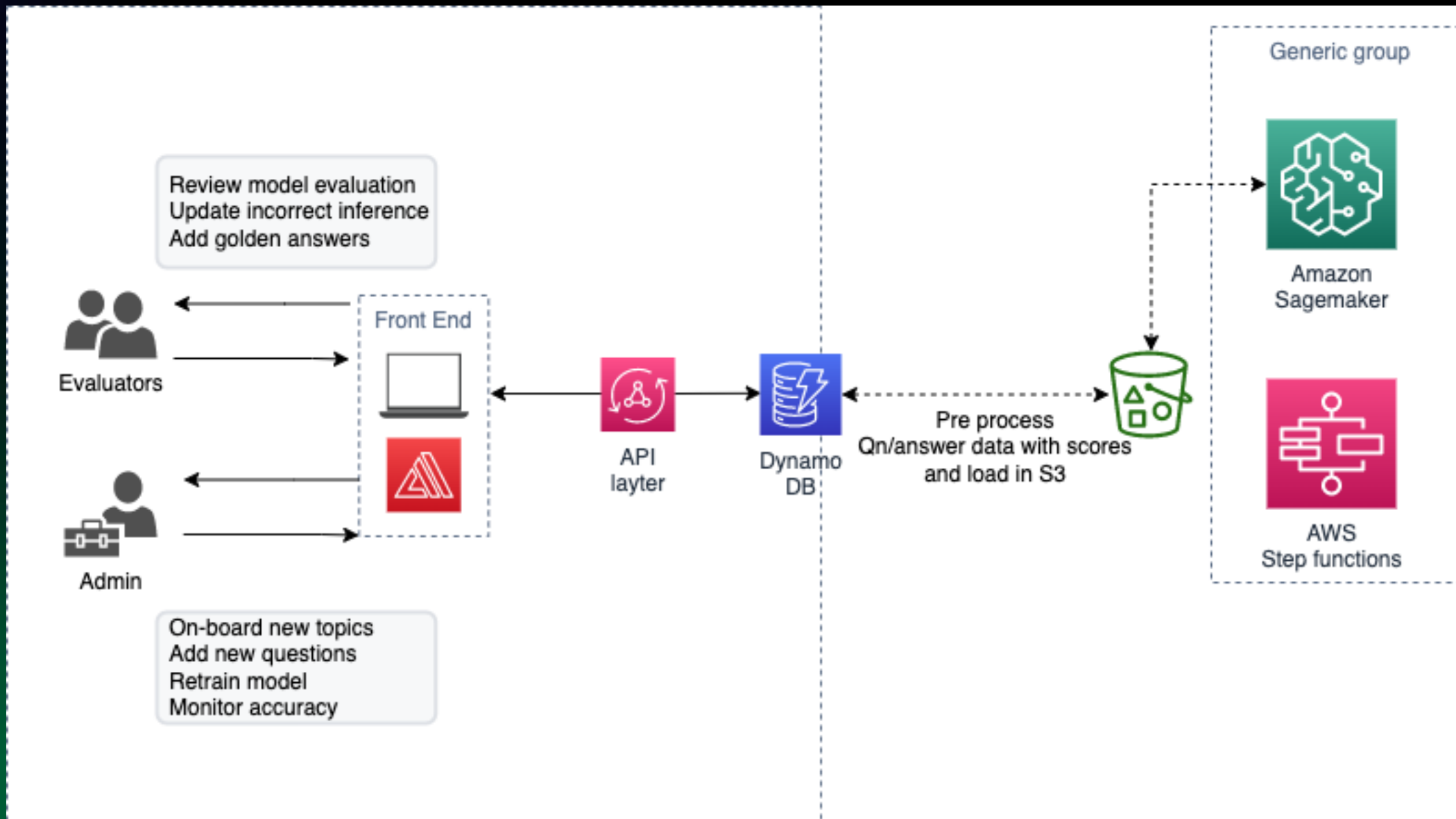
Demo – Admin portal

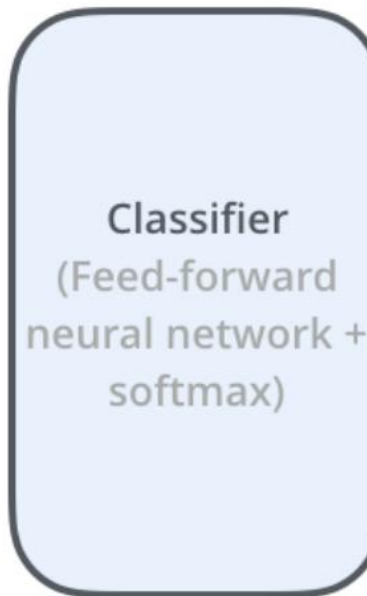# Deep learning models
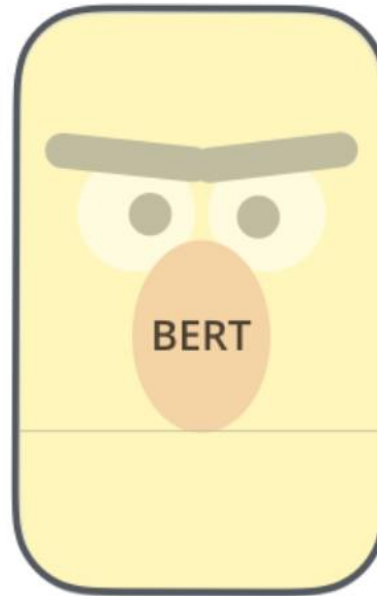
- Model 1 – BERT

- Model 2 – Sentence transformer
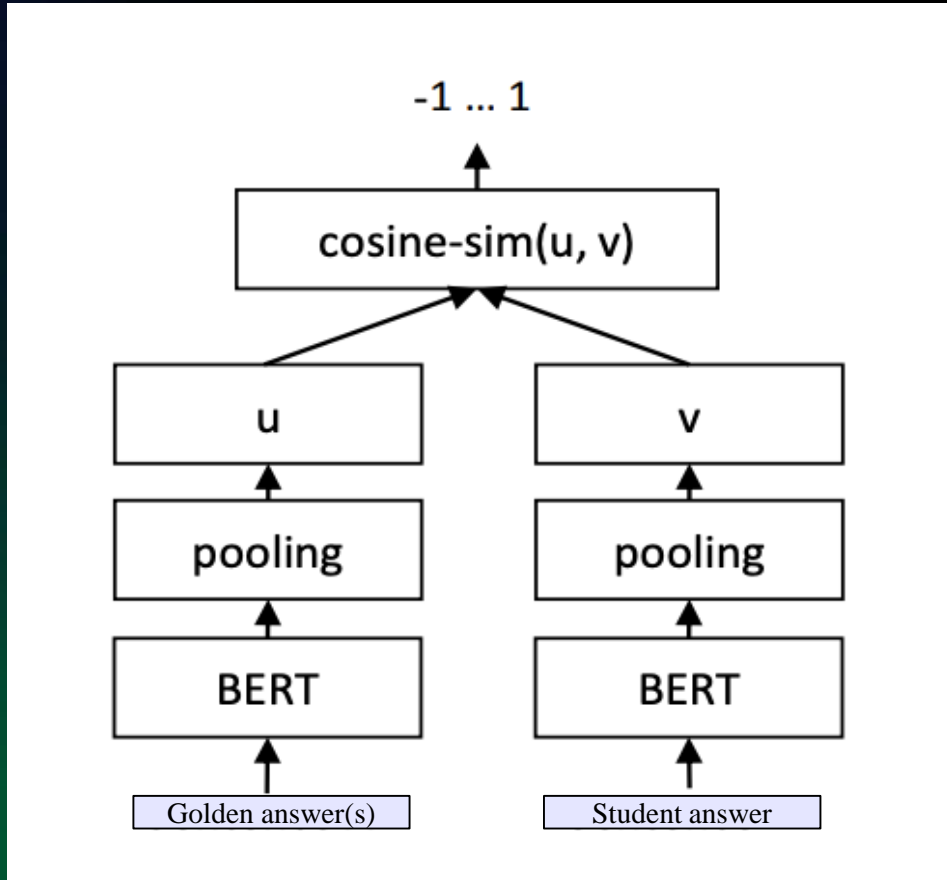
Model 1 - BERT based

Model 1 - Re-trained and fine-tuned BERT
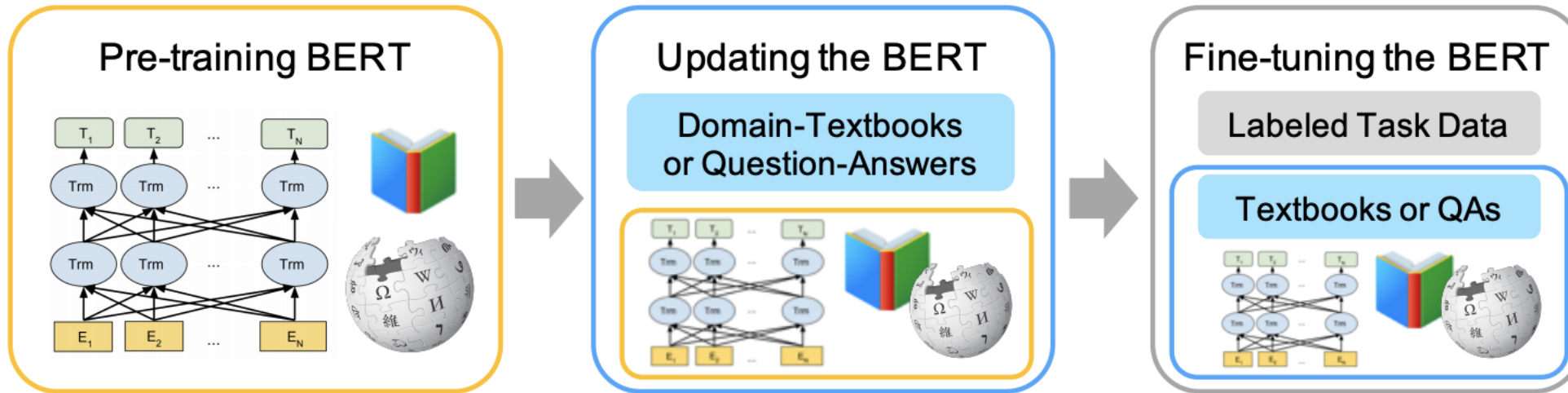
Transfer Learning in NLP = Pre-Training and Fine-Tuning

Source

Model 2 – Sentence transformer based

Candidate Answer :

- Transient variable is a variable whose value is not persisted

Golden Answers :

- A **transient variable** is a **variable** that can not be serialized

- **transient variable** in Java is a **variable** whose value is not serialized during Serialization and which is initialized by its default value during de-serialization

Summary

- The entire solution is built on AWS serverless stack and training/inference using Amazon SageMaker

- It scales quickly and keep the cost under control

- Easy to plug-in additional models trained on newer subjects

- The Amazon Sumerian scene can be customized to meet your branding needs

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- Build modern applications on AWS

- Business value of cloud modernization

- An introduction to event-driven architectures

- Accelerate full-stack web and mobile app development

- Determining the total cost of ownership: Comparing serverless and server-based technologies

- Building event-driven architectures with AWS

- Continuous learning, continuous modernization

https://tinyurl.com/modern-apps-aws
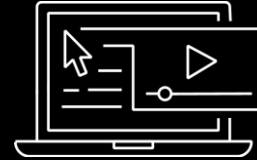
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Thank you!