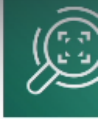


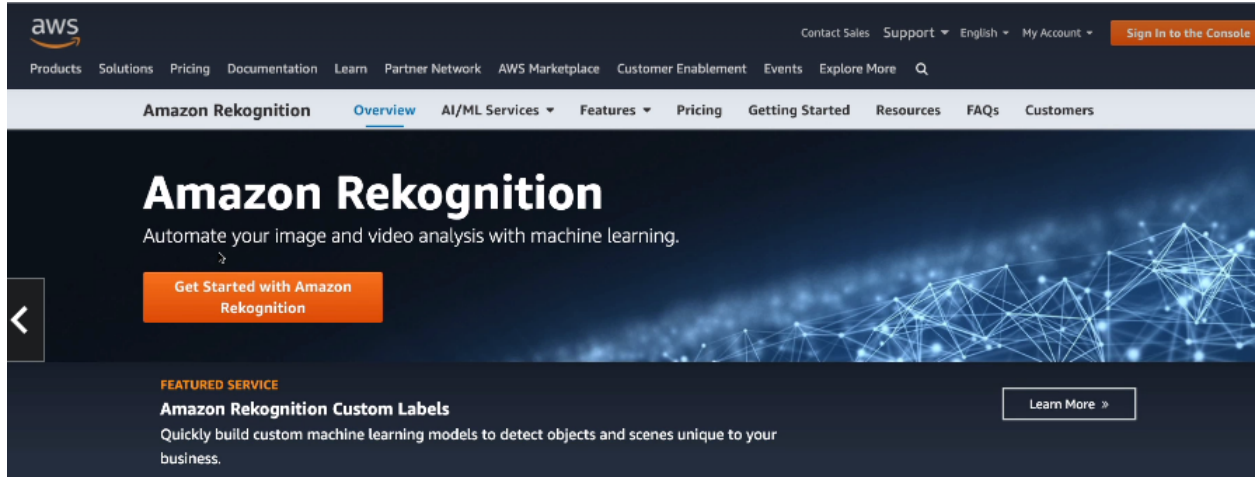
# Amazon Rekognition

## Amazon Rekognition



- Find objects, people, text, scenes in images and videos using ML
- Facial analysis and facial search to do user verification, people counting
- Create a database of “familiar faces” or compare against celebrities
- Use cases:
  - Labeling
  - Content Moderation
  - Text Detection
  - Face Detection and Analysis (gender, age range, emotions...)
  - Face Search and Verification
  - Celebrity Recognition
  - Pathing (ex: for sports game analysis)

1. \_\_\_\_\_



2. \_\_\_\_\_

## AWS Transcribe

# Amazon Transcribe



- Automatically convert speech to text
- Uses a deep learning process called automatic speech recognition (ASR) to convert speech to text quickly and accurately
- Automatically remove Personally Identifiable Information (PII) using Redaction
- Supports Automatic Language Identification for multi-lingual audio
- Use cases:
  - transcribe customer service calls
  - automate closed captioning and subtitling
  - generate metadata for media assets to create a fully searchable archive

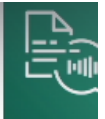


*"Hello my name is Stéphane.  
I hope you're enjoying the course!"*

1.

Amazon Polly

# Amazon Polly



- Turn text into lifelike speech using deep learning
- Allowing you to create applications that talk

*Hi! My name is Stéphane  
and this is a demo of Amazon Polly*



1.

Amazon Translate

# Amazon Translate



- Natural and accurate language translation
- Amazon Translate allows you to **localize content** - such as websites and applications - for **international users**, and to easily translate large volumes of text efficiently.

Source language: Auto (auto) | Target language: French (fr)

Hi my name is Stéphane

Bonjour, je m'appelle Stéphane.

Portuguese (pt)

Oi, meu nome é Stéphane.

Hindi (hi)

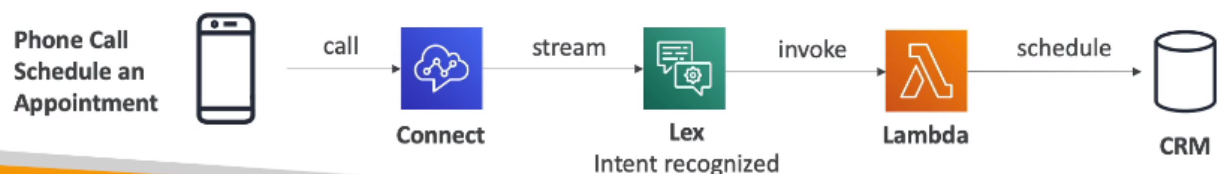
हाय मेरा नाम स्टीफन है

1.

## Amazon Lex & Connect

# Amazon Lex & Connect

- **Amazon Lex:** (same technology that powers Alexa)
  - Automatic Speech Recognition (ASR) to convert speech to text
  - Natural Language Understanding to recognize the intent of text, callers
  - Helps build chatbots, call center bots
- **Amazon Connect:**
  - Receive calls, create contact flows, cloud-based virtual contact center
  - Can integrate with other CRM systems or AWS
  - No upfront payments, 80% cheaper than traditional contact center solutions



1.

## Amazon Comprehend

# Amazon Comprehend

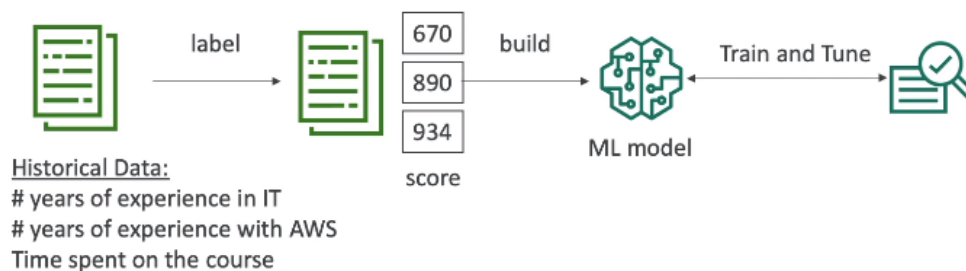
- For Natural Language Processing – NLP
- Fully managed and serverless service
- Uses machine learning to find insights and relationships in text
  - Language of the text
  - Extracts key phrases, places, people, brands, or events
  - Understands how positive or negative the text is
  - Analyzes text using tokenization and parts of speech
  - Automatically organizes a collection of text files by topic
- Sample use cases:
  - analyze customer interactions (emails) to find what leads to a positive or negative experience
  - Create and groups articles by topics that Comprehend will uncover

1.

## AWS Sagemaker

# Amazon SageMaker

- Fully managed service for developers / data scientists to build ML models
- Typically difficult to do all the processes in one place + provision servers
- Machine learning process (simplified): predicting your exam score



1.

## AWS Forecast

# Amazon Forecast



- Fully managed service that uses ML to deliver highly accurate forecasts
- Example: predict the future sales of a raincoat
- 50% more accurate than looking at the data itself
- Reduce forecasting time from months to hours
- Use cases: Product Demand Planning, Financial Planning, Resource Planning, ...

## Historical Time-series Data:

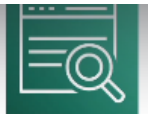
Product features  
Prices  
Discounts  
Website traffic  
Store locations  
...



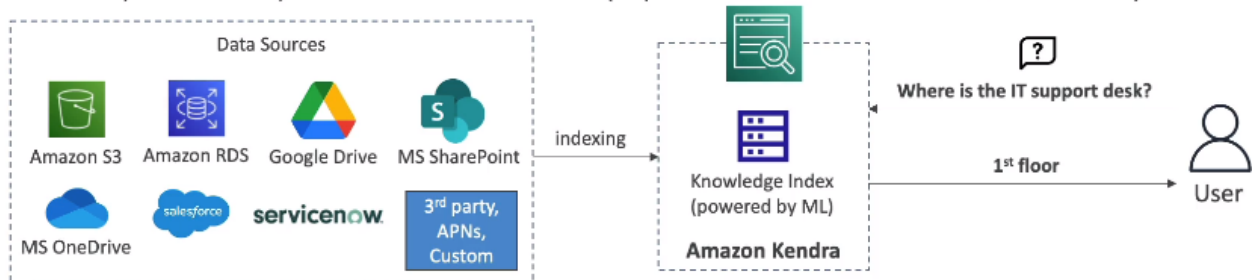
1.

## AWS Kendra

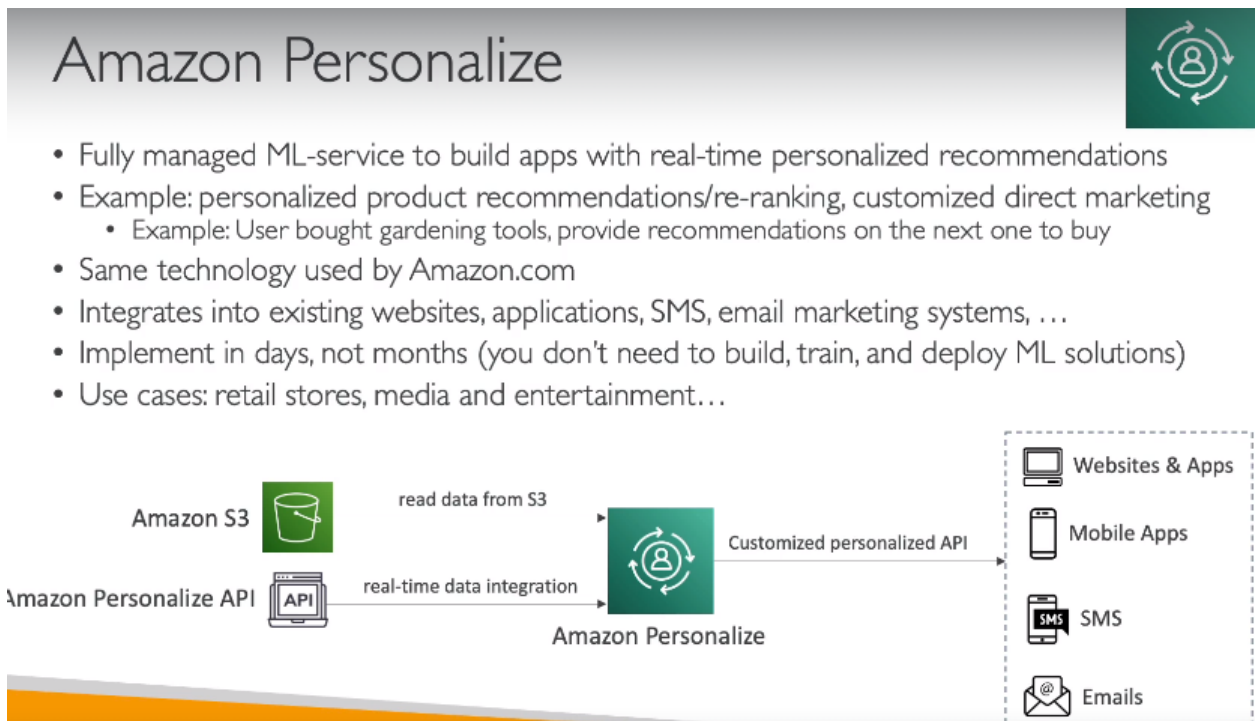
# Amazon Kendra



- Fully managed document search service powered by Machine Learning
- Extract answers from within a document (text, pdf, HTML, PowerPoint, MS Word, FAQs...)
- Natural language search capabilities
- Learn from user interactions/feedback to promote preferred results (Incremental Learning)
- Ability to manually fine-tune search results (importance of data, freshness, custom, ...)



1.



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- So from an exam perspective, anytime you see a machine learning service to build recommendations and personalized recommendations, think Amazon Personalize, that's it.



- Extract data from forms and tables
- Read and process any type of document (PDFs, images, ...)
- Use cases:
  - Financial Services (e.g., invoices, financial reports)
  - Healthcare (e.g., medical records, insurance claims)
  - Public Sector (e.g., tax forms, ID documents, passports)



# AWS Machine Learning - Summary

- Rekognition: face detection, labeling, celebrity recognition
- Transcribe: audio to text (ex: subtitles)
- Polly: text to audio
- Translate: translations
- Lex: build conversational bots – chatbots
- Connect: cloud contact center
- Comprehend: natural language processing
- SageMaker: machine learning for every developer and data scientist
- Forecast: build highly accurate forecasts
- Kendra: ML-powered search engine
- Personalize: real-time personalized recommendations
- Textract: detect text and data in documents

4.