

INT161

Detect and Highlight entities from unstructured text using machine learning

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PUBLIC



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Agenda

Overview

- What is Business Entity Recognition

Use-cases

- Explore various use-cases and applications of Business Entity Recognition

Technical Overview

- Architecture, APIs and Machine Learning process

Demo

- A demo showing Business Entity Recognition in action

What is Business Entity Recognition?

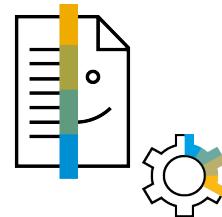


Business Entity Recognition (BER)

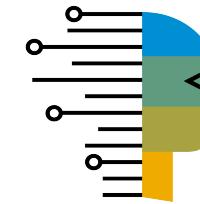
Detect and highlight any given type of named entity in unstructured text



Text Document
for Entity
Extraction



Pre trained/Custom
Entity Recognition
model for Text



Automatically
recognize entities in
text document

Powerful machine learning technology to detect and highlight any given type of named entity in unstructured text into pre-defined categories



Increase efficiency
and reduce errors



Immediately
Productive with Pre-
Trained models



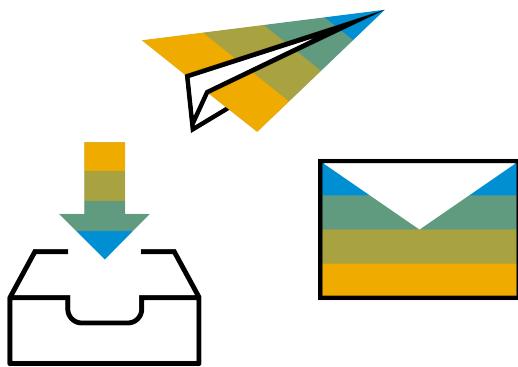
Increase
overall document
processing productivity

Business Entity Recognition: Use-cases



Locating and Classifying Named Entities in Unstructured Text

Moments of truth



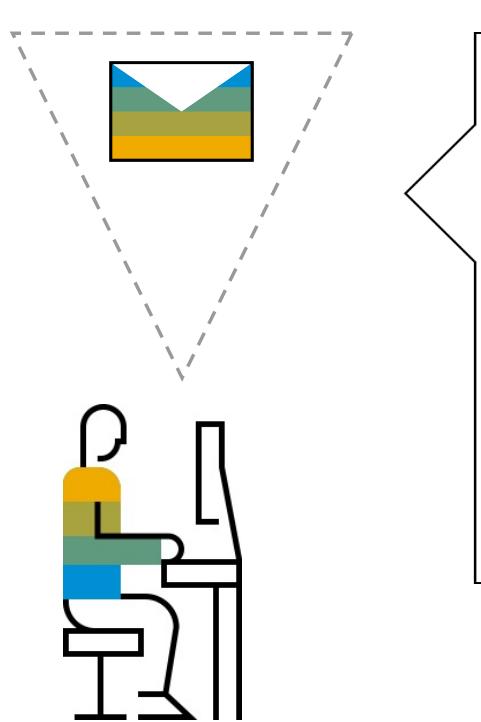
The average office worker
receives 121 emails and
sends about 40 each day.



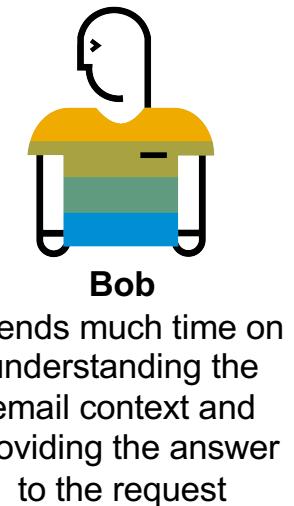
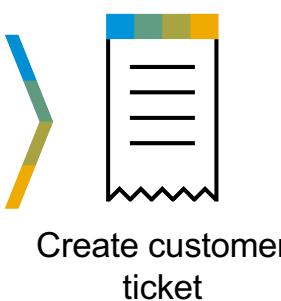
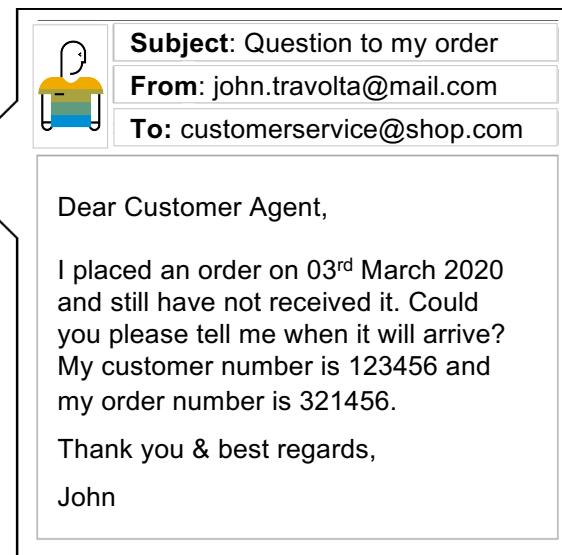
Employees spend **20 mins** on
average to complete one
expense report.

Locating and Classifying Named Entities in Unstructured Text

Problem: long time to understand the context of emails and processing them

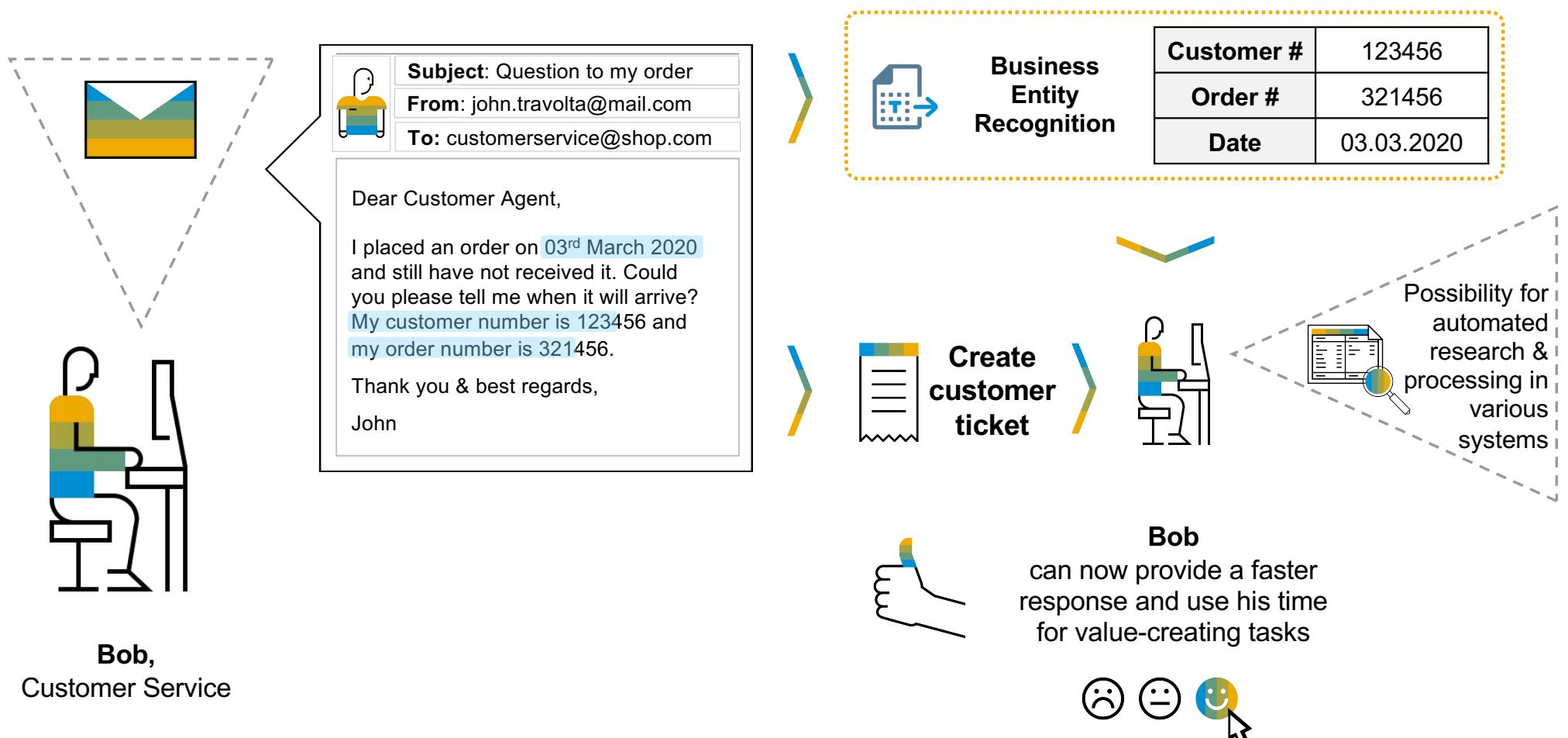


Bob,
Customer Service



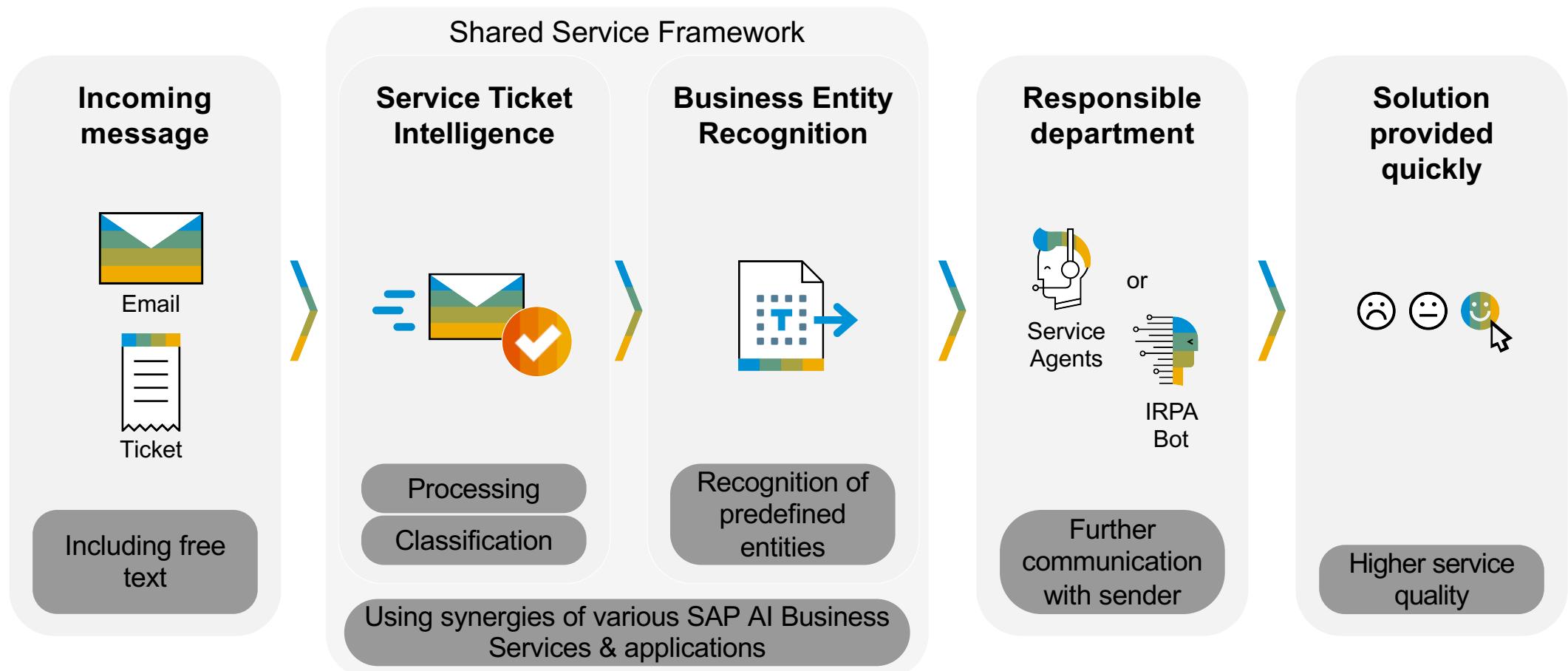
Locating and Classifying Named Entities in Unstructured Text

Solution: Business Entity Recognition



Locating and Classifying Named Entities in Unstructured Text

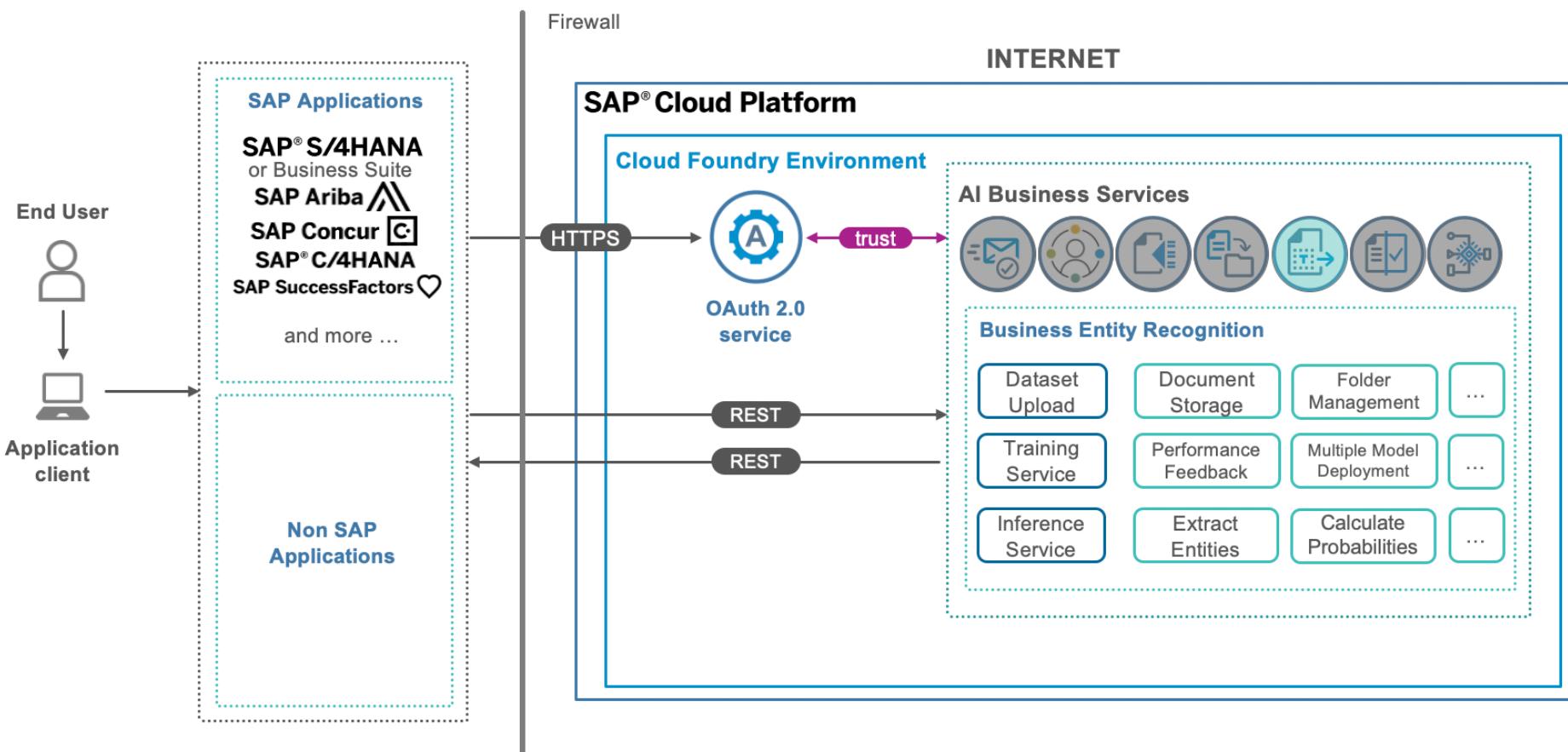
Shared Services Framework



Business Entity Recognition: Technical Overview



Business Entity Recognition Architecture



Business Entity Recognition: APIs

BER has a set of APIs to perform the following operations:

- Create dataset and upload documents
- Trigger training to get a custom model based on your dataset
- Deploy the custom model to use it for inference
- Perform inference with the deployed model to extract entities

API: Trigger training to create custom models

Datasets Training Data APIs : Upload, delete and get training data

GET /datasets Retrieve all datasets

POST /datasets Creates a new training dataset entry

DELETE /datasets/{datasetId} Deleting a dataset and its contents

GET /datasets/{datasetId} Get specific dataset details

GET /datasets/{datasetId}/documents Get documents present in a dataset

POST /datasets/{datasetId}/documents Upload a training document

DELETE /datasets/{datasetId}/documents/{documentId} Deletes specific training document of the given dataset ID

GET /datasets/{datasetId}/documents/{documentId} Retrieve specific training document detail of the given dataset ID

Training Training Job APIs : Trigger training job and get status

POST /training/jobs Submit training job

DELETE /training/jobs/{jobId} delete training job

GET /training/jobs/{jobId} Get training status

Deployments Model Deployment APIs : Create, delete and get model deployments

GET /deployments Get all deployment details

POST /deployments Deploy a model

DELETE /deployments/{deploymentId} Undeploy a successfully deployed model

GET /deployments/{deploymentId} Get information of a deployed model

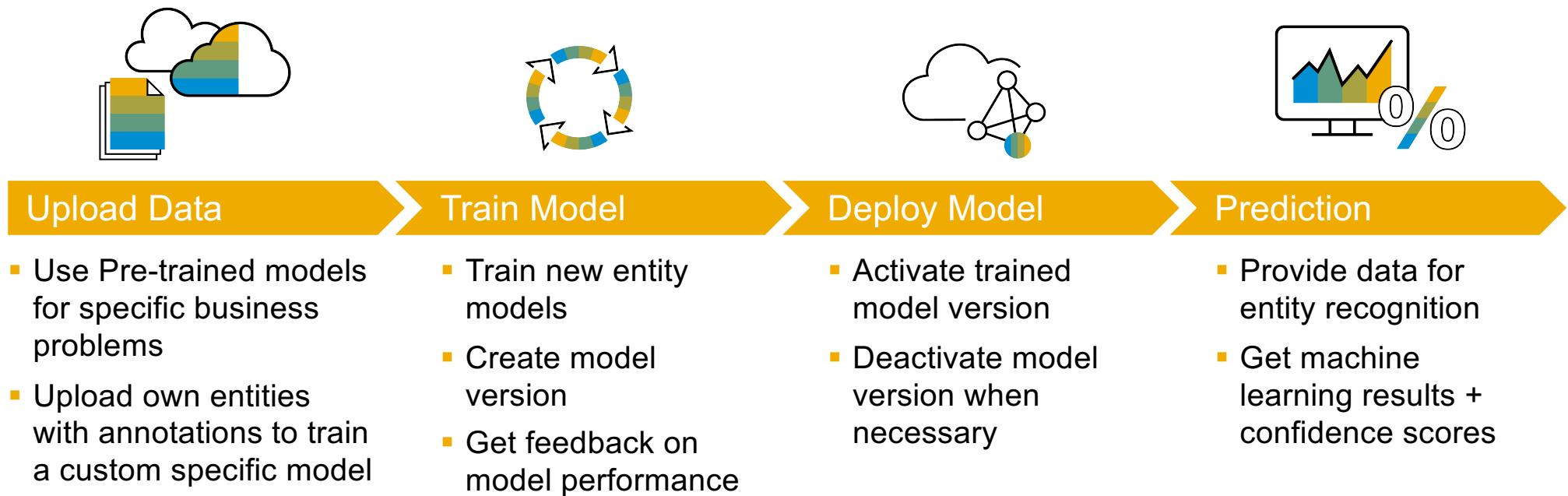
API: Inference

Inference Inference Job APIs : Trigger inference job and get extracted entities

POST /inference/jobs Submit inference job

GET /inference/jobs/{jobId} Get inference status and extracted entities

Summary



Business Entity Recognition: Data Management

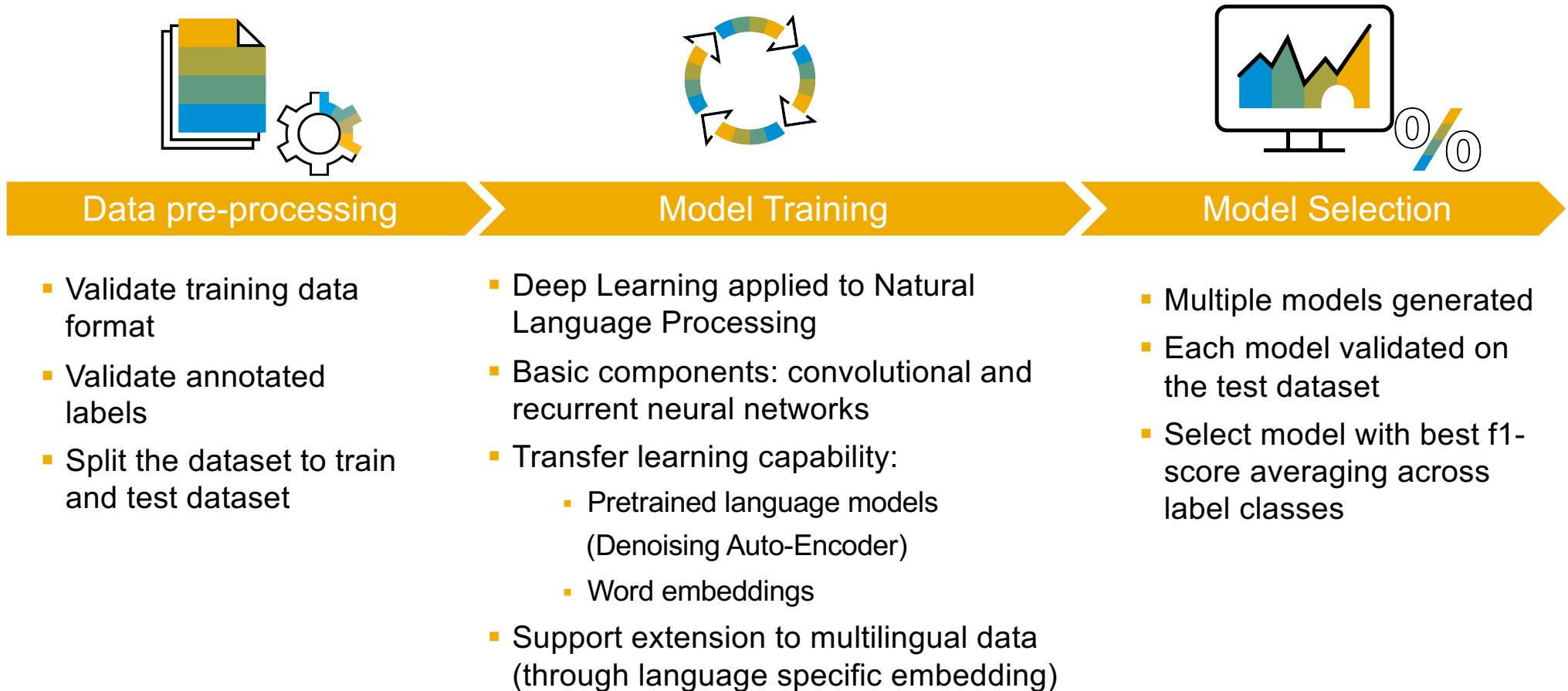
Training Data

- Stored in Minio object storage
- The data is isolated for each tenant
- The service user has the full control of the data- upload and delete APIs are provided

Inference Data

- Texts provided for inference are temporarily stored in the database (PostgreSQL)
- A scheduled job runs every 24 hours to delete the texts which are older than 12 hours
- Hence, no inference text would be stored for more than 24 hours

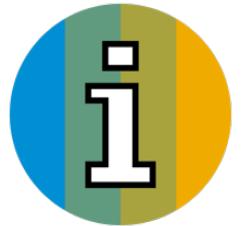
Business Entity Recognition: Machine Learning Process





Demo

Locating and Classifying Named Entities in Unstructured Text



More information

Related SAP TechEd sessions

- INT110– Learn how to Consume AI Business Services for Business Document Processing
 - INT201– Infuse Intelligence into Business Processes with SAP AI Business Services
 - INT820– Road Map: SAP AI Business Services
 - INT937– Expert Q&A
-

Public SAP Web sites

- SAP Community: <https://community.sap.com/topics/artificial-intelligence>
- SAP Help Page: https://help.sap.com/viewer/product/Business_Entity_Recognition

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Contact for further topic inquiries

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