



Az COMMUNITY

Conference 2022

Asia's Largest Azure Community Conference



#AzConfDev



Hanuma Pedaprolu

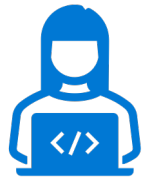
Solution Architect



Extracting information from documents leveraging the power of Azure Form Recognizer



What and How are we going to learn?



Developers

An AI Solution
without prior
experience



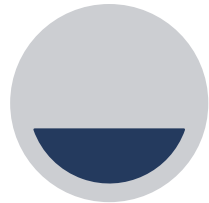
Architects

Key
considerations
for architecture



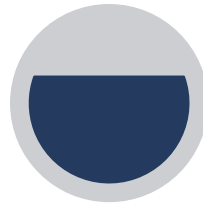
**DevOps
Engineers**

Key
considerations
for deployment



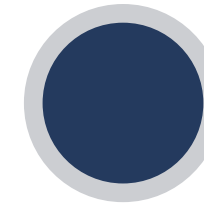
Prebuilt Models

Use of identity document
model



Custom Model

Training & Evaluation



Key Considerations

Possible architectural
patterns

Documents are everywhere..



- Several **businesses spend several 100s** of hours of **human effort** in **verifying documents** and making **entries into their online** systems
- Templated Documents:
 - Aadhar
 - Passport
 - Drivers License
 - Admission Forms
 - Invoices
 - Organizational forms
 - ...more!



What if we were to do it?



Form Recognizer



Runs in the
cloud



Key-Value



Textual
Information

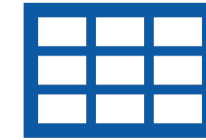


Table data

Azure Form Recognizer is a cloud-based Azure Applied AI Service that uses machine-learning models to extract key-value pairs, text, and tables from your documents. Form Recognizer analyzes your forms and documents, extracts text and data, maps field relationships as key-value pairs, and returns a structured JSON output - Source



Demo



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Azure Applied AI Services



- High-level services
- Built on top of Azure Cognitive Services
- Out of the box benefits for various scenarios alleviating the pain of developers

Azure Bot Service

Azure Form Recognizer

Azure Cognitive Search

Azure Metrics Advisor

Azure Video Indexer

Azure Immersive Reader

Source - <https://docs.microsoft.com/en-us/azure/applied-ai-services/>

Azure Applied AI Services

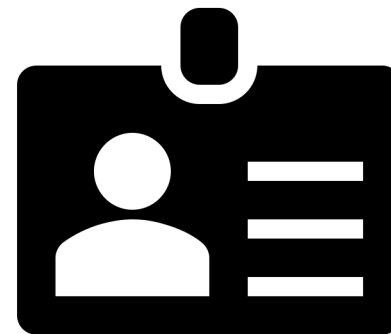


- Microsoft has built a few models based on general use-cases. These are known as pre-built models and can be integrated with products directly without any further training.



Business Card

Business Cards



ID Document

Passport, Drivers License



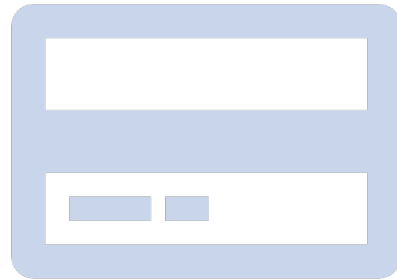
Invoices & Receipts

Sales – Invoices, Sales Receipts

Azure Applied AI Services

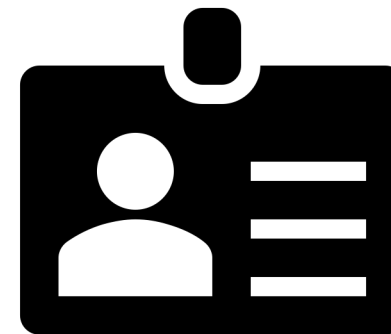


- Microsoft has built a few models based on general use-cases. These are known as pre-built models and can be integrated with products directly without any further training.



Business Card
Business Cards

1. Contact Names
2. First Name
3. Last Name
4. Company Name
5. Department(s)
6. ...



ID Document
Passport, Drivers License

1. CountryRegion
2. Date of Birth
3. Date of Expiration
4. DocumentNumber
5. FirstName
6. LastName
7. Nationality
8. Sex
9. MachineReadableZone
10. DocumentType
11. Address
12. Region



Invoices & Receipts
Sales – Invoices, Sales Receipts

1. Customer Name
2. Customer Id
3. Purchase Order
4. InvoiceId
5.

Bounding polygon



Bounding polygon



```
{
  "content": "Hanuma Pedaprolu",
  "polygon": [
    771,
    1883,
    1940,
    1883,
    1940,
    2013,
    770,
    2007
  ],
  "spans": [
    {
      "offset": 204,
      "length": 16
    }
  ]
},
```


Can I train my own model?



- Form recognizer has been developed keeping customization aspect at the forefront.
- To create a model a minimum of 5 documents are needed..



Demo – Custom Models



Key Considerations



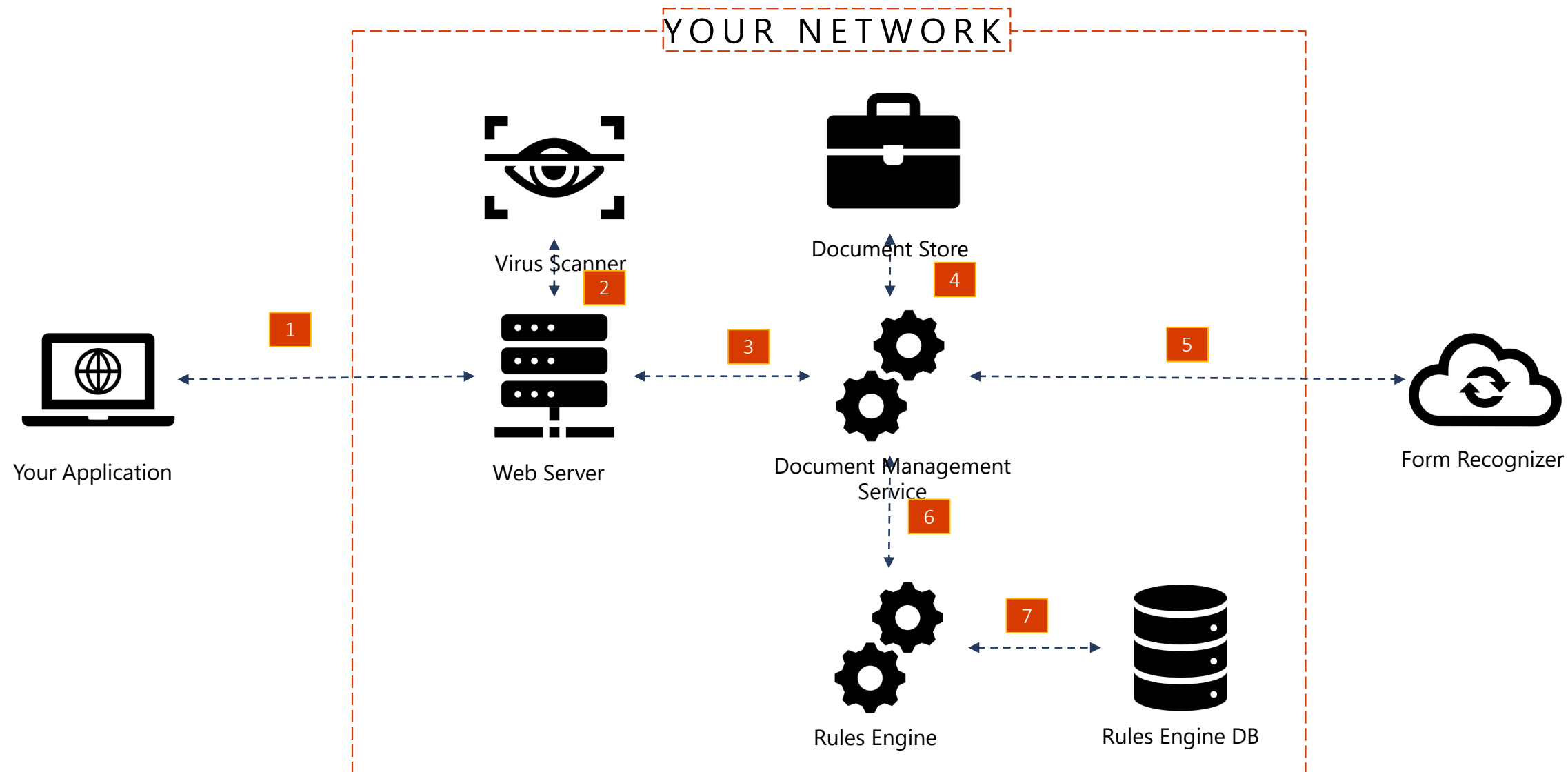
Higher the quality of the document, the better is the result



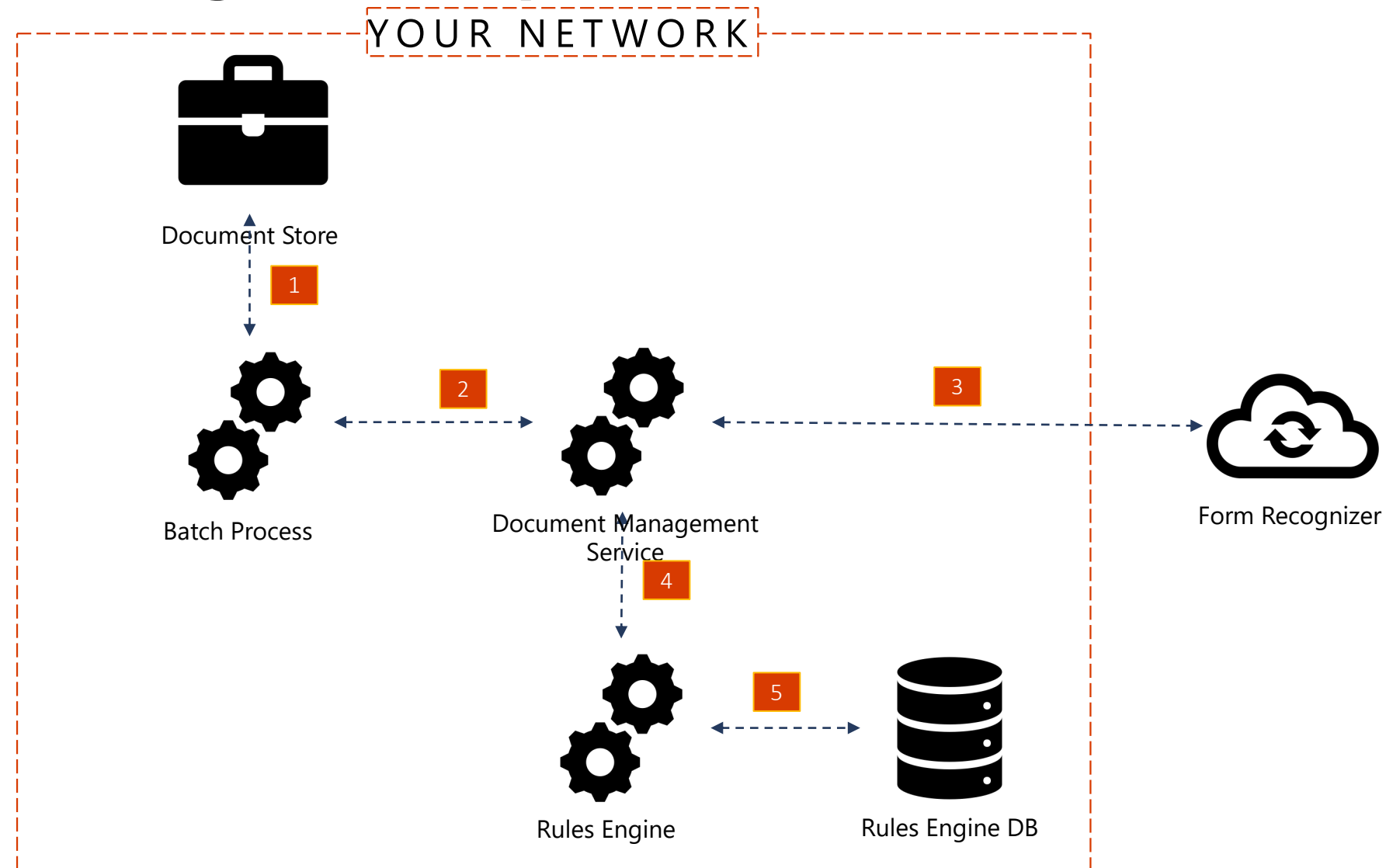
- For best results, provide one clear photo or high-quality scan per document.
- Supported file formats: JPEG/JPG, PNG, BMP, TIFF, and PDF (text-embedded or scanned). Text-embedded PDFs are best to eliminate the possibility of error in character extraction and location.
- For PDF and TIFF, up to 2000 pages can be processed (with a free tier subscription, only the first two pages are processed).
- The file size must be less than 500 MB for paid (S0) tier and 4 MB for free (F0) tier.
- Image dimensions must be between 50 x 50 pixels and 10,000 x 10,000 pixels.
- PDF dimensions are up to 17 x 17 inches, corresponding to Legal or A3 paper size, or smaller.
- The total size of the training data is 500 pages or less.
- If your PDFs are password-locked, you must remove the lock before submission.

Source: <https://docs.microsoft.com/en-us/azure/applied-ai-services/form-recognizer/concept-id-document>

Real-time integration pattern



Offline integration pattern





Q & A



Thank You!



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Hanuma Pedaprolu

@castasstring

Source Code & Slides

<https://github.com/castasint/AzConf-WorkShop>



Platinum Partner



Gold Partner



Silver Partner

