

# Azure Overview

Joshua Joshua  
@JoshuaJsmart



**KEEP  
CALM**

**HERE'S THE  
AGENDA**

Azure Overview

Azure Web Apps

Azure Storage + Cognitive Services

Azure Machine Learning

Azure Stream Analytics

Azure High-Performance Computing

# What is the Cloud?



> 500m

Azure Active Directory Users

> 250k

Active websites

Greater than  
1,500,000

SQL Databases in Azure

> 777 TRILLION  
storage  
transactions  
per day

> 80% Fortune 500  
Use Azure

> 1.5 TRILLION  
messages/mo  
processed by  
Azure IoT

> 13 BILLION  
authentications/wk

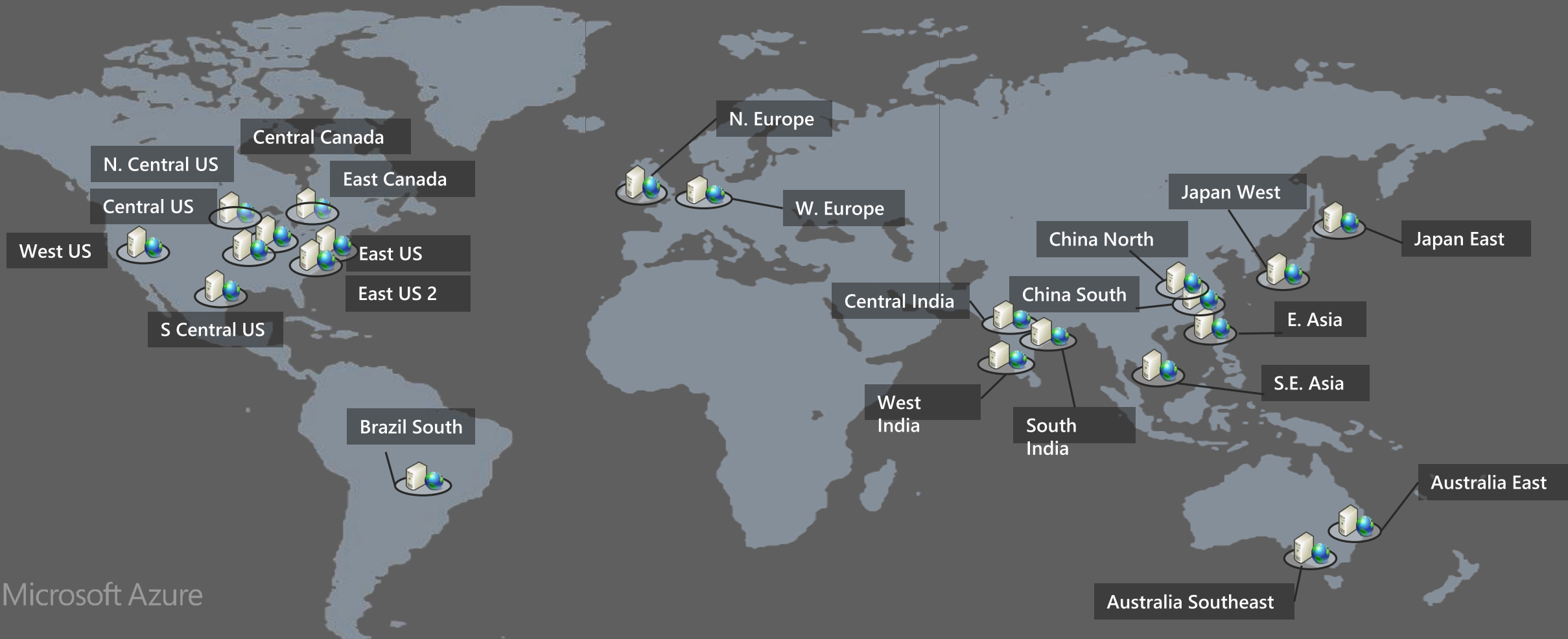
> 1 MILLION  
Developers  
registered  
with Visual  
Studio Online

# Azure Data Centers

## North America

## Europe

## Asia Pacific



# Azure Services

## Platform Services

### Security and Management

-  Portal
-  Active Directory
-  Multi-factor Authentication
-  Automation
-  Key Vault
-  Store/Marketplace
-  VM Image Gallery and VM Depot

### Compute

-  Cloud Services
-  Service Fabric
-  Batch
-  Remote App

### Web and mobile

-  Web Apps
-  API Apps
-  API Management
-  Mobile Apps
-  Logic Apps
-  Notification Hubs

### Developer services

-  Visual Studio
-  Azure SDK
-  Team Project
-  Application Insights







### Hybrid Operations

-  Azure AD Connect Health
-  AD Privileged Identity Management
-  Backup
-  Operational Insights
-  Import/Export
-  Site Recovery
-  StorSimple







### Integration

-  Storage Queues
-  Biztalk Services
-  Hybrid Connections
-  Service Bus

### Analytics and IoT

-  HDInsight
-  Machine Learning
-  Data Factory
-  Event Hubs
-  Stream Analytics
-  Mobile Engagement

### Data

-  SQL Database
-  SQL Data Warehouse
-  Redis Cache
-  Search
-  DocumentDB
-  Tables

### Media and CDN

-  Media Services
-  Content Delivery Network (CDN)

## Infrastructure Services

### Compute

-  Virtual Machine
-  Containers

### Storage

-  BLOB Storage
-  Azure Files
-  Premium Storage

### Networking

-  Virtual Network
-  Load Balancer
-  DNS
-  Express Route
-  Traffic Manager
-  VPN Gateway
-  Application Gateway



Microsoft  Linux



# Publish a Web Site

Use prebuilt templates to build a personal Web site with technologies you know,  
or create a commercial Web site that scales to serve millions of customers

Azure App Service



Web Apps



Mobile Apps



API Apps



Logic Apps



django

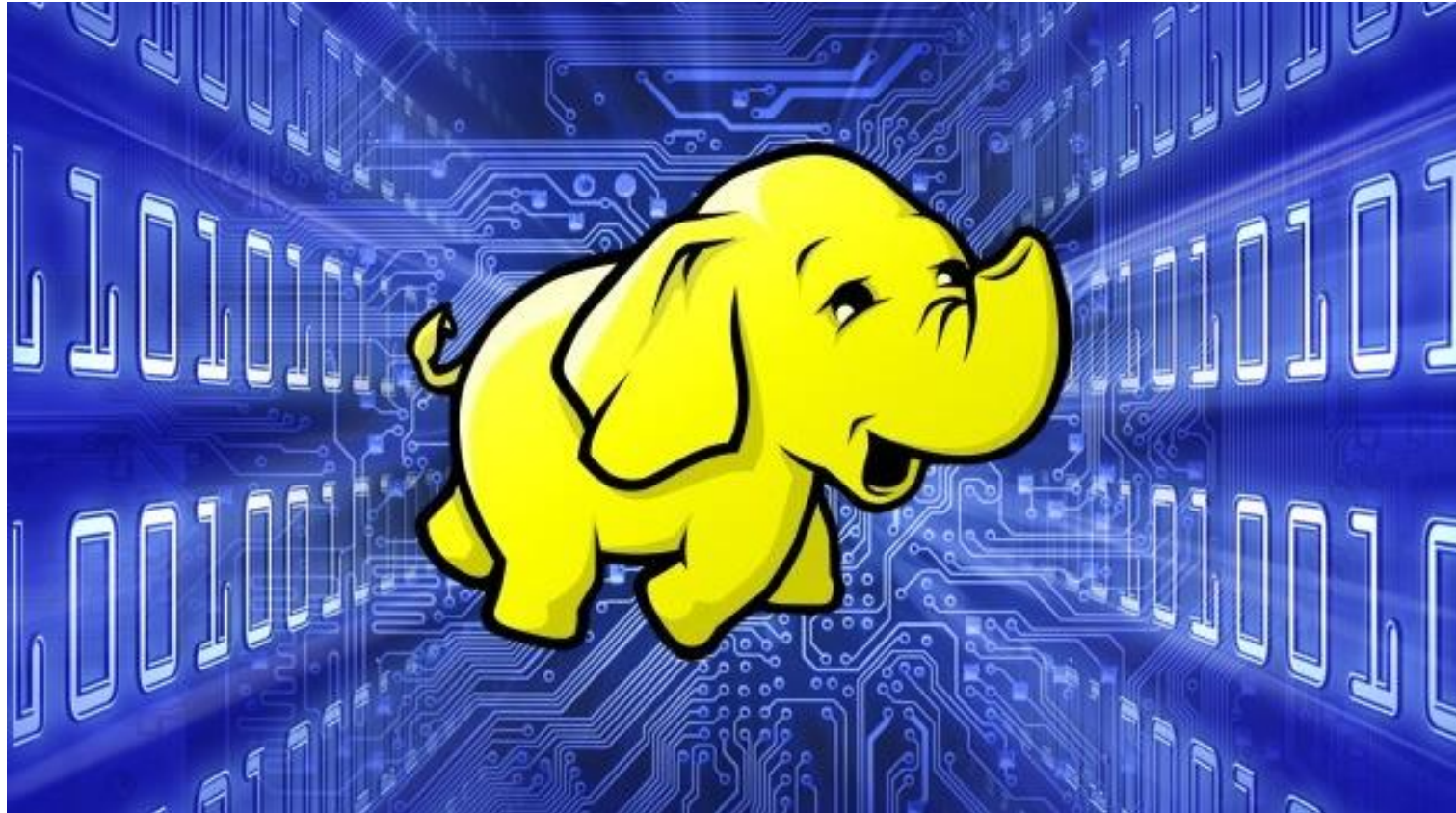
The web framework for  
perfectionists with deadlines.





# Tame Big Data with Hadoop

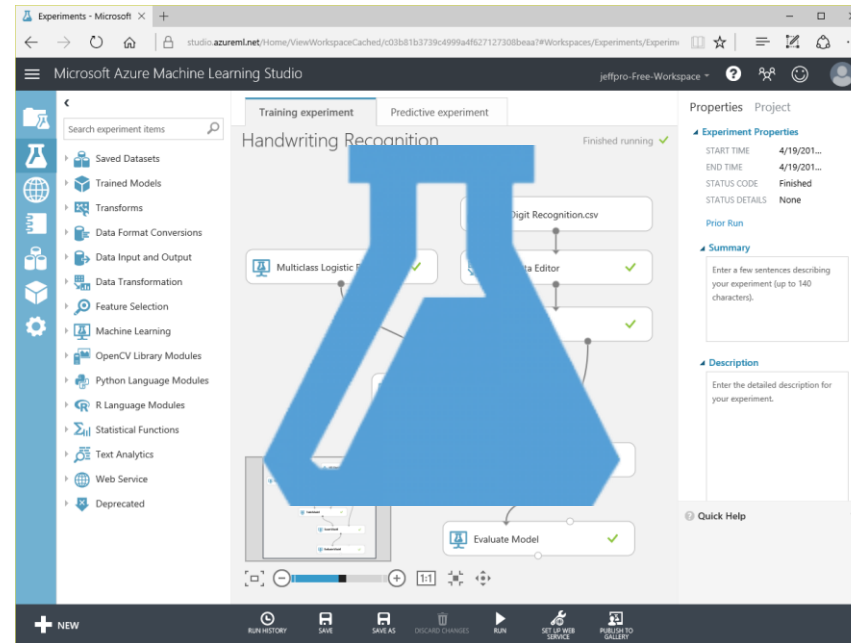
Spin up an Azure HDInsight cluster and  
use MapReduce to process large data sets in parallel



# Perform Real-Time Fraud Detection

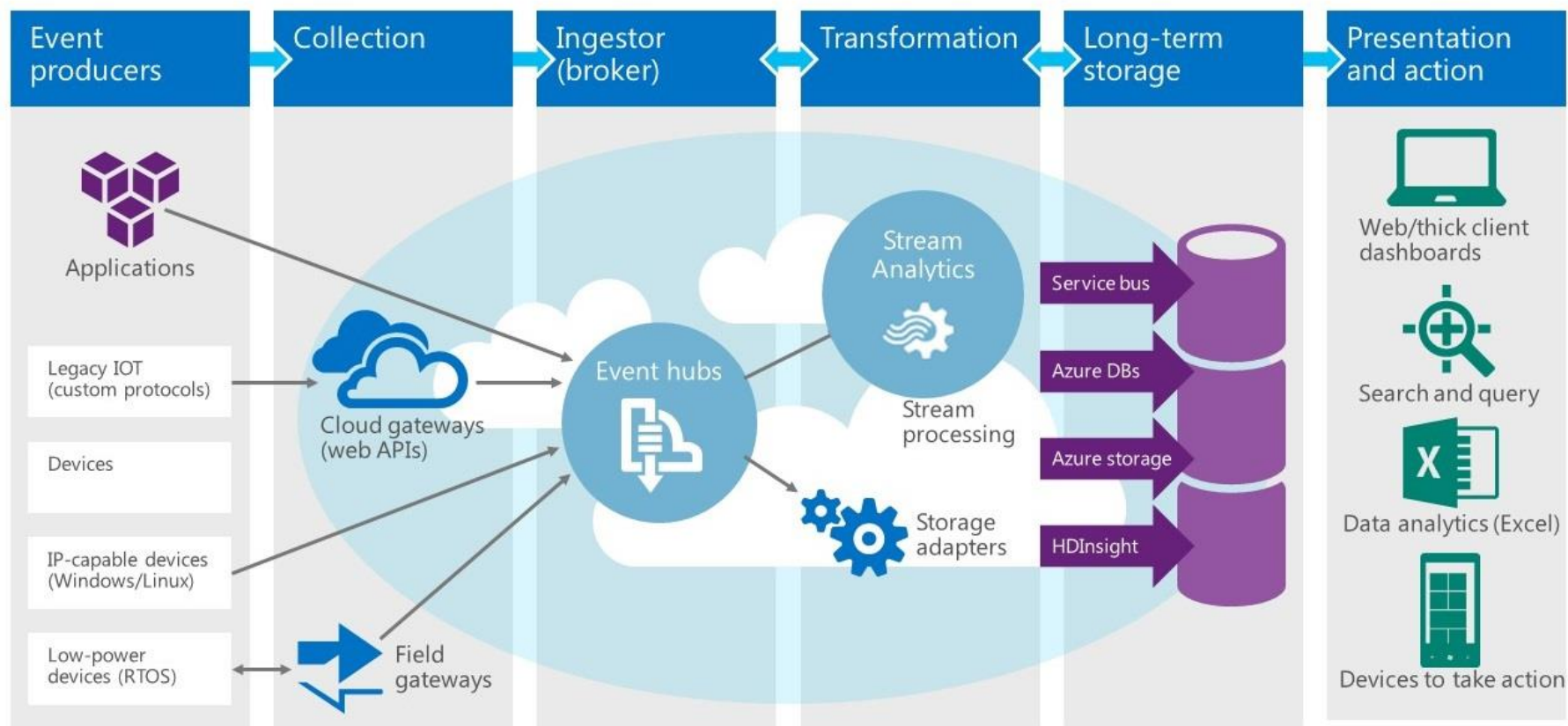
Train a model with Azure Machine Learning and use that model to classify credit-card transactions as fraudulent or not fraudulent

| Feature   | Value       |
|-----------|-------------|
| Name      | Bill Gates  |
| Age       | 60          |
| Gender    | Male        |
| Amount    | \$352.00    |
| Purchased | Software    |
| Location  | Redmond, WA |
| Time      | 3:15 p.m.   |
| ...       | ...         |



# Process Data from IoT Devices

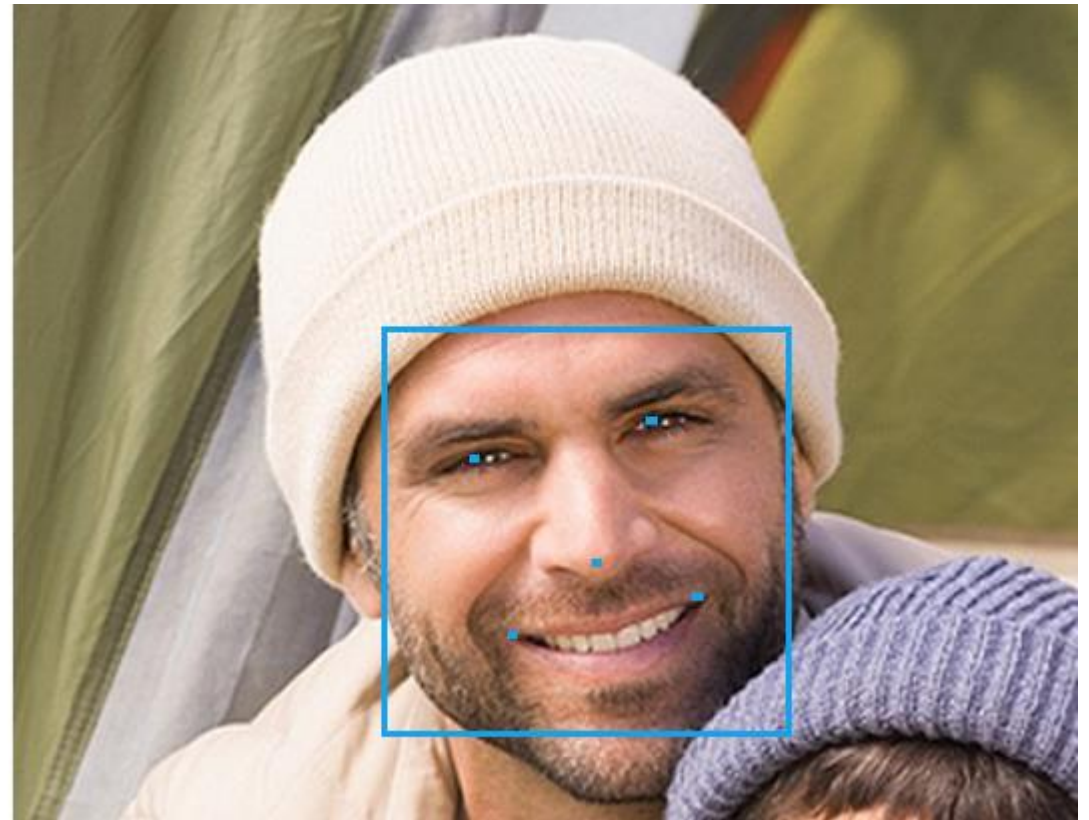
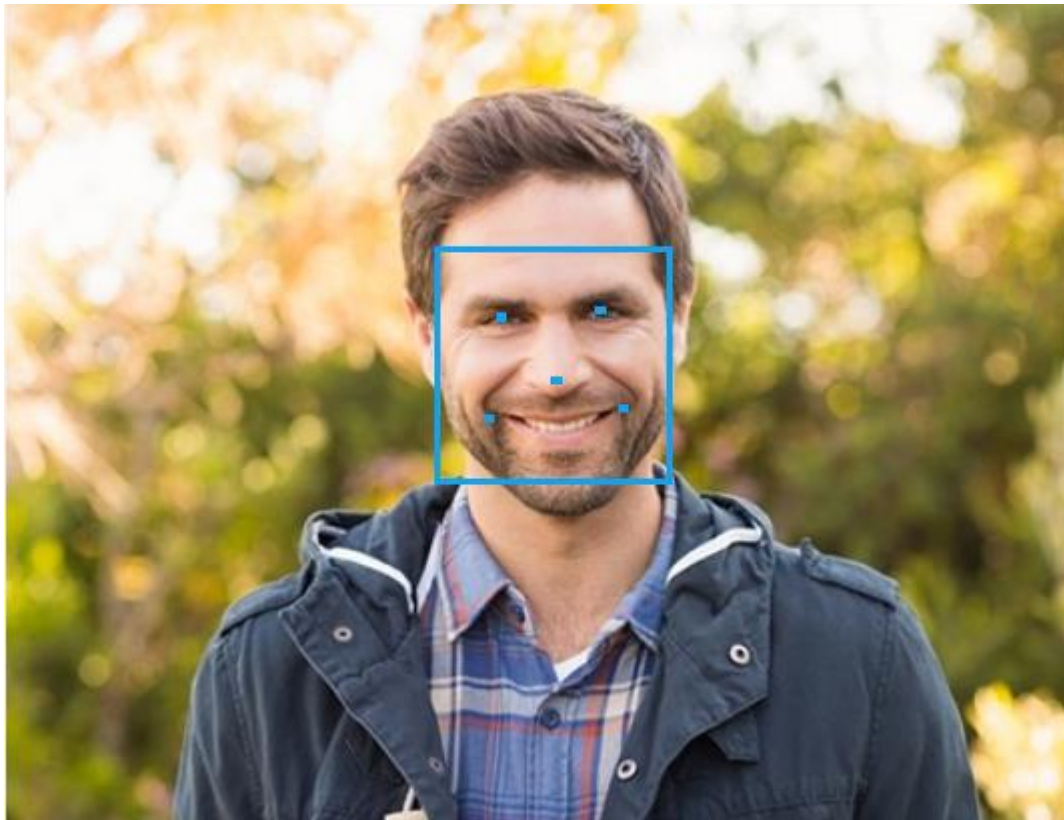
Combine Azure Event/IoT Hubs, Azure Stream Analytics, and Azure Storage to analyze IoT data streams in real time





# Identify Faces

Use the Cognitive Services **Face API** to compare faces, identify faces, search for similar faces, and more



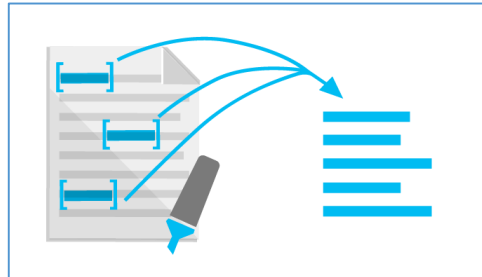
# Perform Sentiment Analysis

Use the Cognitive Services **Text Analytics API**  
to analyze sentiment in text files, Twitter feeds, and other sources

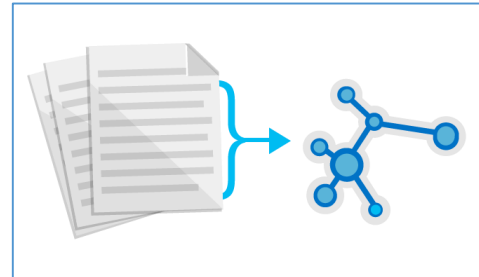
Sentiment Analysis



Key Phrase Extraction



Topic Detection



Language Detection



“Thanks to Text Analytics...we are able to incorporate guest sentiment into our actionable guest feedback platform that delivers a comprehensive view of guest satisfaction and server performance.”

— Al Pappa, Head of Business Intelligence, Ziosk

# Many Languages, Many SDKs

- Write code in any language and for any platform
  - Azure SDKs available for a variety of languages and platforms (free)
  - Also available in package form from NuGet and NPM
- Ramp up quickly by using what you already know

.NET

Node.js

Java

Python

Ruby

PHP

C++

iOS

Android



# Uploading a Blob (C#)

- Create a blob using the Azure Storage SDK for .NET
- Upload the contents of a local file to the blob

```
CloudStorageAccount account =  
    CloudStorageAccount.Parse("connection_string");  
CloudBlobClient client = account.CreateCloudBlobClient();  
CloudBlobContainer container =  
    client.GetContainerReference("container_name");  
CloudBlockBlob blob =  
    container.GetBlockBlobReference("blob_name");  
await blob.UploadFromFileAsync("file_name");
```

# Uploading a Blob (Node.js)

- Create a blob using the Azure Storage SDK for Node.js
- Upload the contents of a local file to the blob

```
var storage = require("azure-storage");
var service =
    storage.createBlobService("connection_string");
service.createBlockBlobFromLocalFile(
    "container_name", "blob_name", "file_name",
    function(error, result, response) {
        if (!error) {
            // File uploaded
        }
    });
```

# Uploading a Blob (Python)

- Create a blob using the Azure Storage SDK for Python
- Upload the contents of a local file to the blob

```
from azure.storage.blob import ContentSettings
block_blob_service = BlockBlobService(
    account_name='account_name',
    account_key='account_key'
)
block_blob_service.create_blob_from_path(
    'container_name',
    'blob_name',
    'file_name',
    content_settings=ContentSettings(
        content_type='image/png'
    )
)
```



+ New

Resource groups

All resources

Recent

App Services

Virtual machines (classic)

Virtual machines

SQL databases

Cloud services (classic)

Subscriptions

Browse &gt;

Microsoft Azure



a4rlabs

Storage account



Settings



Delete

Settings

a4rlabs

Essentials ^

Resource group

A4R-Lab

Status

Primary: Available, Secondary: Available

Location

East US, West US

Subscription name

Azure Pass

Subscription ID

2ba8f409a77c644c1d-97ac-71b019cc0817

Services

Add tiles +

Blobs



Files



TABLES



QUEUES

Monitoring

Add tiles +

Total requests

Search settings

MANAGE

Properties

Access keys

Account type

MONITOR

Alert rules

Audit logs

Diagnostics

RESOURCE MANAGEMENT

Users

Azure Portal

<https://portal.azure.com>

# Hands-On Lab

Introduction [HOL.html](#)



© 2016 Microsoft Corporation. All rights reserved. Microsoft, Windows, Windows Vista and other product names are or may be registered trademarks and/or trademarks in the U.S. and/or other countries. The information herein is for informational purposes only and represents the current view of Microsoft Corporation as of the date of this presentation. Because Microsoft must respond to changing market conditions, it should not be interpreted to be a commitment on the part of Microsoft, and Microsoft cannot guarantee the accuracy of any information provided after the date of this presentation. MICROSOFT MAKES NO WARRANTIES, EXPRESS, IMPLIED OR STATUTORY, AS TO THE INFORMATION IN THIS PRESENTATION.