

# An overview of providers

UNDERSTANDING CLOUD COMPUTING



**Iason Prassides**

Content Developer, DataCamp

# Overview

How this chapter should be understood:

- overview of **main cloud providers**
- overview of their **market position**
- overview of their respective **key services**
- overview of their **strengths**
- examples of **customers**
- **case study**



# Overview

How this chapter should be understood:

- overview of **main cloud providers**
- overview of their **market position**
- overview of their respective **key services**
- overview of their **strengths**
- examples of **customers**
- **case study**



# The players

 Microsoft Azure



 Google Cloud

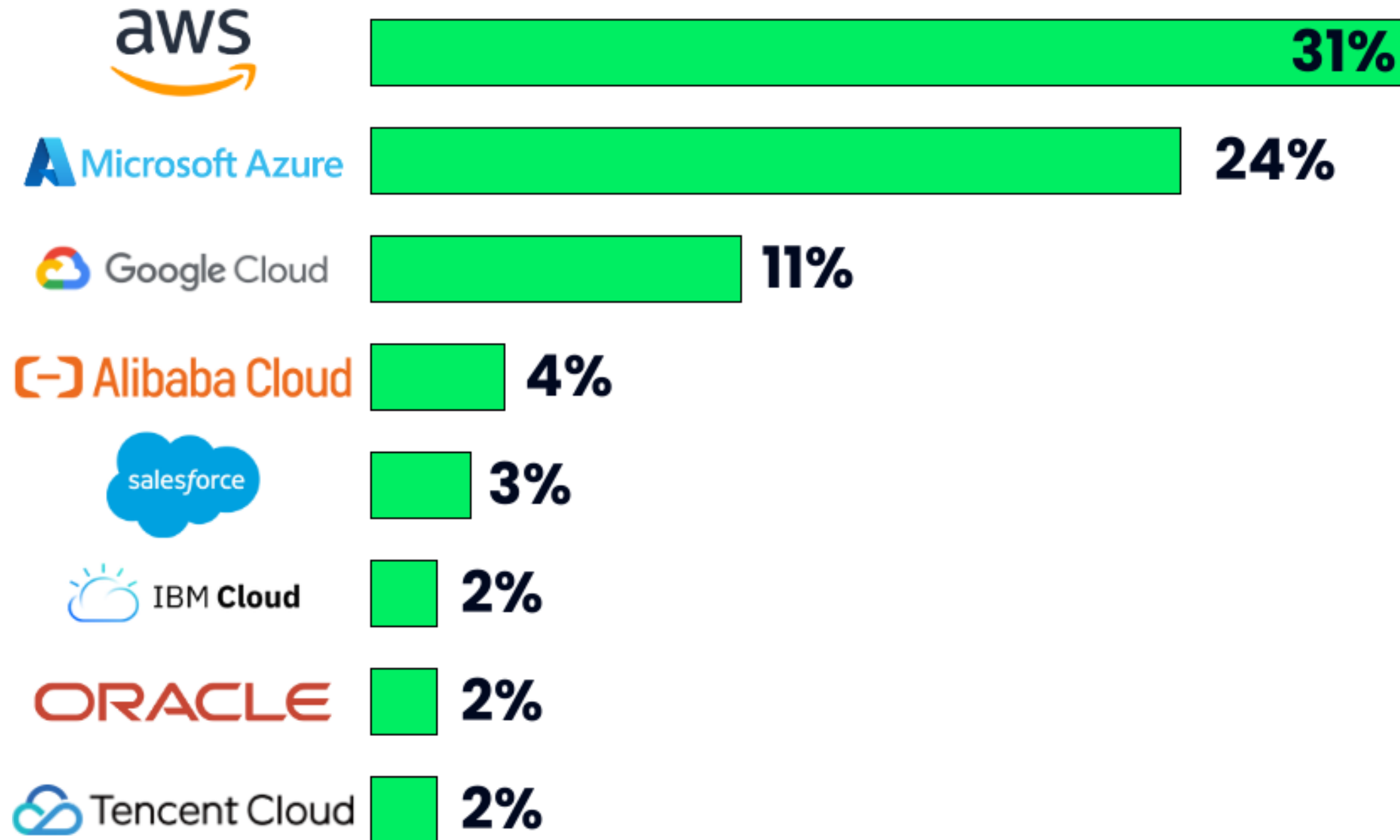
 Alibaba Cloud



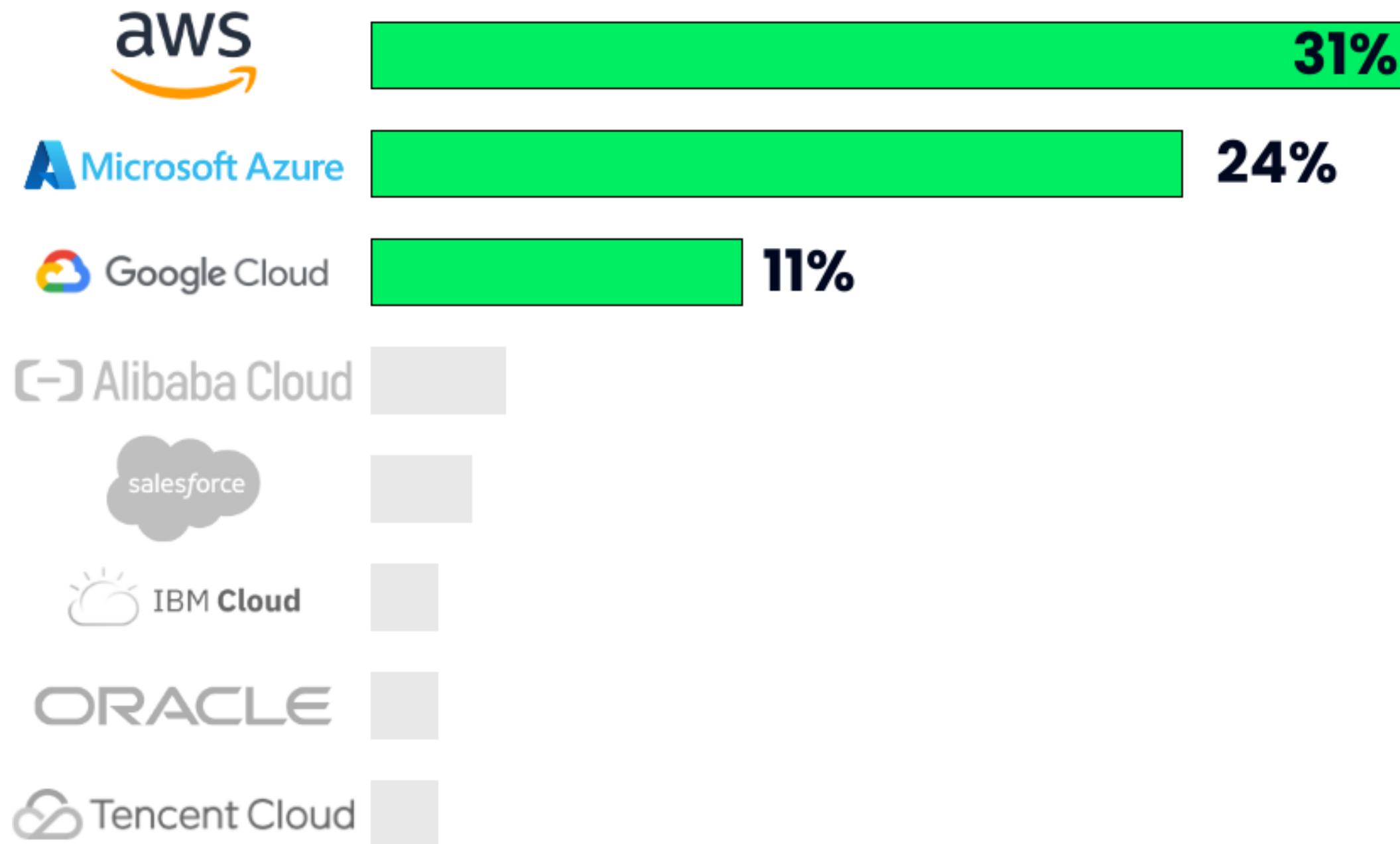
 Tencent Cloud

 IBM Cloud

# Market share



# Market share



# The rise of cloud computing

- Cloud computing services vital for modern companies
- IaaS and PaaS offer significant benefits
- Enable agility, efficiency, innovation
- Reduce costs, focus on core business



# Making a choice

- Best cloud provider meets company needs
- Leverage cloud specialists' knowledge
- Contact providers directly





# Making a choice



- Consider current infrastructure and data center costs
- Evaluate costs for managing hardware and storage
- Assess costs for app depreciation, migration, or rebuild for cloud
- Consider hiring cloud specialists, benefits to company and customers, and potential cloud migration risks

# Let's practice!

UNDERSTANDING CLOUD COMPUTING

# Amazon Web Services

UNDERSTANDING CLOUD COMPUTING



**Iason Prassides**

Content Developer, DataCamp

# AWS and the market



- AWS launched in **2006** (Google Cloud in **2008**, Microsoft Azure in **2010**)
- Breadth of services:
  - Computing
  - Storage
  - Analytics
  - Security and enterprise applications
  - Machine learning
- Market share: **31%**

# AWS professional cloud services



**AWS Simple Storage  
Service (S3)**

# AWS professional cloud services



**AWS Simple Storage  
Service (S3)**



**AWS Elastic Compute  
Cloud (EC2)**

# AWS professional cloud services



**AWS Simple Storage  
Service (S3)**



**AWS Elastic Compute  
Cloud (EC2)**



**AWS Relational Database  
Service (RDS)**

# AWS professional data services

- Redshift (analytics - data warehousing)



**AWS Redshift**



# AWS professional data services

- Redshift (analytics - data warehousing)
- Kinesis (real time data movement and analytics)



**AWS Redshift**



**AWS Kinesis**

# AWS professional data services

- Redshift (analytics - data warehousing)
- Kinesis (real time data movement and analytics)
- SageMaker (predictive analytics and machine learning)



**AWS Redshift**



**AWS Kinesis**



**AWS SageMaker**

# AWS customers



# AWS case study

**Company:** NerdWallet

**Problem:** Takes too long to deploy machine learning models

**Solution:**

- Amazon Sagemaker (cloud machine learning platform gathering machine learning processes)



# AWS case study

## Improvements:

- Reduce training times to days
- Reduce training costs by 75%
- Modernized data science engineering practices



<sup>1</sup> <https://aws.amazon.com/solutions/case-studies/>

# Let's practice!

UNDERSTANDING CLOUD COMPUTING

# Microsoft Azure

UNDERSTANDING CLOUD COMPUTING



**Iason Prassides**  
Content Developer, DataCamp

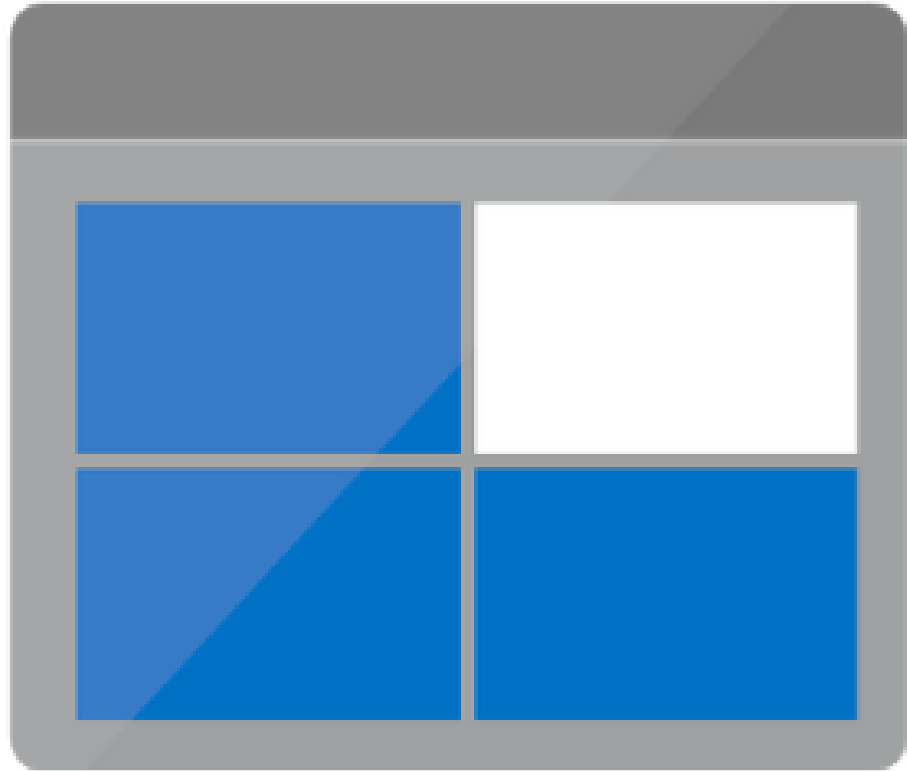
# Azure and the market



- Integration with Microsoft products
- Benefits from customer loyalty, top-of-mind choice
- Market share: **24%**

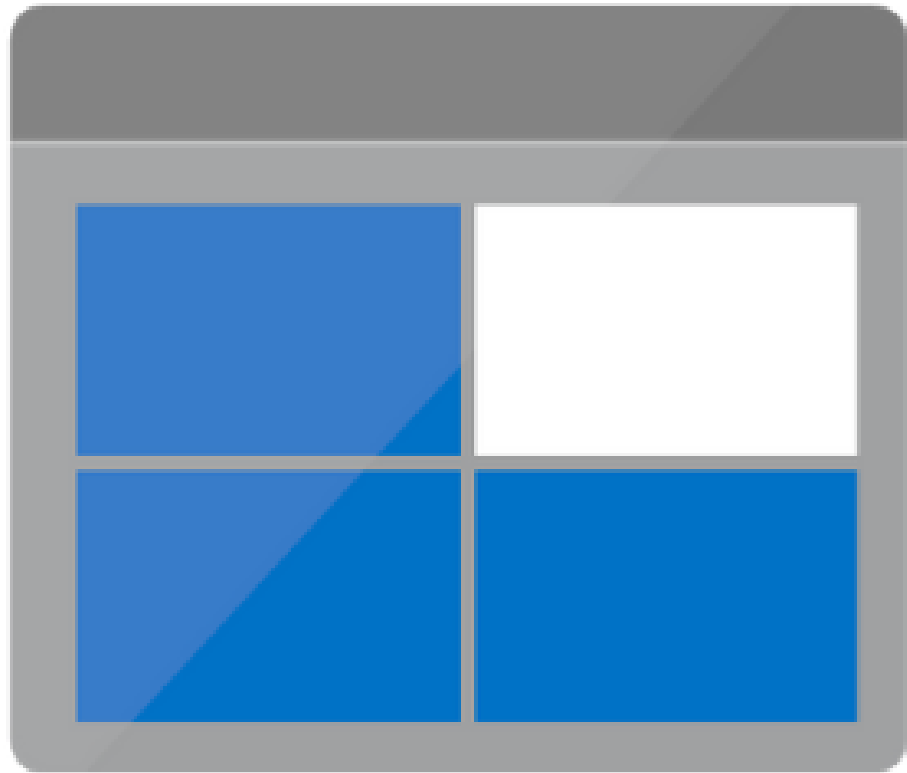


# Azure cloud services

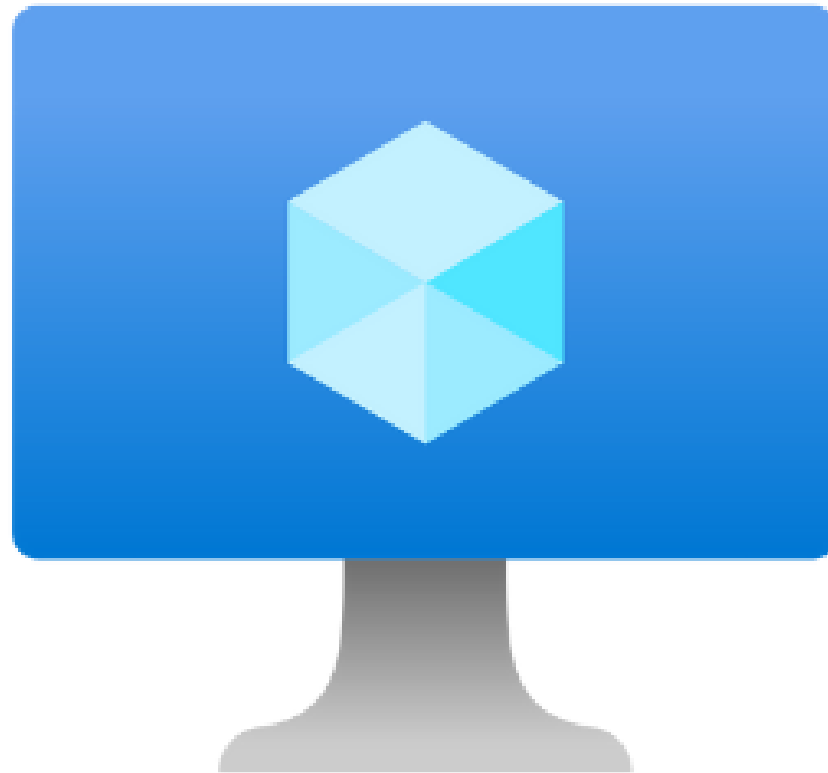


**Azure Blob Storage**

# Azure cloud services



**Azure Blob Storage**

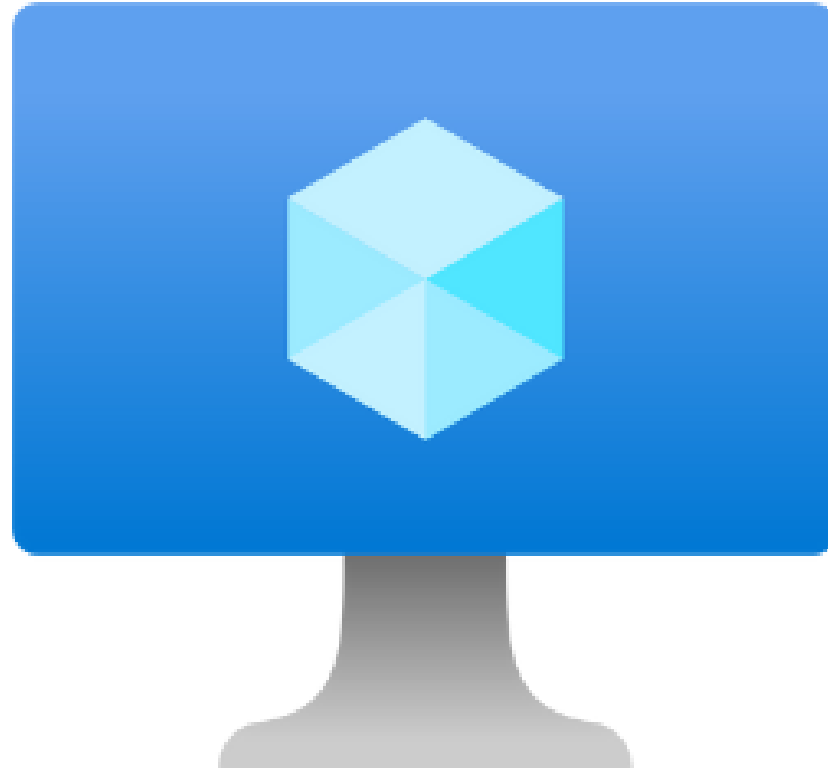


**Azure Virtual Machines**

# Azure cloud services



**Azure Blob Storage**



**Azure Virtual Machines**



**Azure SQL Database**

# Microsoft Fabric

- Integrates various Microsoft solutions for enterprise use
- Covers data movement, data science, real-time analytics, business intelligence
- A key service offering by Microsoft



# Azure data services

- **Data Lake Storage** (store data before cleaning)



**Data Lake Storage**

# Azure data services

- **Data Lake Storage** (store data before cleaning)
- **Stream Analytics** (real-time analytics)



**Data Lake Storage**



**Stream Analytics**

# Azure data services

- **Data Lake Storage** (store data before cleaning)
- **Stream Analytics** (real-time analytics)
- **Machine Learning** (train and deploy machine learning models)



**Data Lake Storage**



**Stream Analytics**



**Machine Learning**

# Azure customers

SIEMENS



THE WORLD BANK

L'ORÉAL



# Azure case study

**Organization:** Ottawa Hospital

**Needs:** Cost-effective and secure disaster recovery solution (continue vital operations after a disaster)

**Solution:**

- Microsoft IaaS (secure, scalable environment)
- Azure Storage (medical imaging data)
- Azure Site Recovery (automatically deploy recovery processes)



# Azure case study

## Improvements:

- New secure, up-to-date, policy compliant disaster recovery site
- Compliant with data privacy regulations
- Saved ~50% on disaster recovery costs



<sup>1</sup> <https://customers.microsoft.com/>

# Let's practice!

UNDERSTANDING CLOUD COMPUTING

# Google Cloud

UNDERSTANDING CLOUD COMPUTING



**Iason Prassides**

Content Developer, DataCamp

# Google Cloud and the market



Google Cloud

- Google Cloud Anthos
- Run hybrid multi-cloud solutions:
  - manage and deploy across several cloud providers
- Market share: **11%**

# Google Cloud services



**Google Cloud  
Storage**

# Google Cloud services



**Google Cloud  
Storage**



**Google Cloud  
Compute Engine**

# Google Cloud services



**Google Cloud  
Storage**



**Google Cloud  
Compute Engine**



**Google Cloud  
SQL**



# Google Cloud data services

- Big Query (data warehouse)



**Google Cloud BigQuery**

# Google Cloud data services

- **Big Query** (data warehouse)
- **Dataflow** (batch and stream data processing)



**Google Cloud BigQuery**



**Google Cloud Dataflow**

# Google Cloud data services

- **Big Query** (data warehouse)
- **Dataflow** (batch and stream data processing)
- **AutoML** (machine learning model training and development)



**Google Cloud BigQuery**



**Google Cloud Dataflow**



**Google Cloud AutoML**

# Google Cloud customers



# Google Cloud case study

Organization: Lush

**Needs:** Improve e-commerce platform availability and stability during peak loads

**Solution:**

- Migrate entire global infra to Google Cloud
- Google Cloud Compute Engine (quickly test and provision environments during migration)
- Customer and product data on Google Cloud SQL

The LUSH logo is displayed in a large, bold, black, sans-serif typeface. The letters are closely spaced and have a clean, modern appearance.

# Google Cloud case study

## Improvements:

- No outage during Boxing Day
- 40% reduction in hosting costs
- Later deployed an image recognition app to provide information on their product and reduce plastic packaging on Google Cloud AI platform

# LUSH

<sup>1</sup> <https://cloud.google.com/customers/lush/>

# Let's practice!

UNDERSTANDING CLOUD COMPUTING

# Congratulations!

UNDERSTANDING CLOUD COMPUTING



**Iason Prassides**

Content Developer, DataCamp



# Chapter 1 - Introduction to cloud computing

- How cloud computing **works**
- Why it is **powerful**
- Main **service models** (IaaS, PaaS, SaaS)

# Chapter 2 - Cloud strategies

- **Deployment models** (private, public, and hybrid)
- **Regulations**
- **Cloud roles**

# Chapter 3 - The cloud infrastructure market

- Market's major players
- Their offerings
- Their customers

# Next steps

- **Explore** further to find the right service for you
  - Talk with cloud expert
  - Explore the cloud provider websites
  - Get in touch with cloud providers

## DataCamp's cloud-focused courses

- [Introduction to Azure](#)
- [Introduction to AWS](#)
- [Introduction to GCP](#)

# Thank you!

UNDERSTANDING CLOUD COMPUTING