Application

Web Services on Azure

Agenda

- **Why Azure?**
- **App Service**
- **Static Web Apps**
- **Databases on Azure**
- **Enterprise Application Standard**

Why Azure?

- You can use **any cloud provider** or **any server** for Bootcathon.

- All cloud providers have similar services + Free services.

- Azure offers $100 credit for 12 months

  https://azure.microsoft.com/en-us/free/students

  After you use your credit, wait until the 12 months are over and sign up again if you're still a student. You'll get $100 credit and free services—just like before.

  AWS Educate – https://aws.amazon.com/education/awseducate/

  Google Cloud Skills Boost –
  https://services.google.com/fb/forms/googlecloudskillsbooststudenttrainingcreditsapplication/

Cloud Comparison Cheat Sheet

aws	Azure	Google Cloud	ORACLE CLOUD
Elastic Compute Cloud (EC2)	Virtual Machine	Compute Engine	Virtual Machine
Elastic Kubernetes Service (EKS)	Azure Kubernetes Service (AKS)	Google Kubernetes Engine (GKE)	Oracle Container Engine
Lambda	Azure Functions	Cloud Functions	OCI Functions
Simple Storage Service (S3)	Blob Storage	Cloud Storage	Object Storage
Elastic Block Store	Managed Disk	Persistent Disk	Persistent Volume
Elastic File System	File Storage	File Store	File Storage
Virtual Private Cloud	Virtual Network	Virtual Private Cloud	Virtual Cloud Network
Route 53	DNS	Cloud DNS	DNS
Elastic Load	Load Balancer	Cloud Load	Load Balancer

Gartner

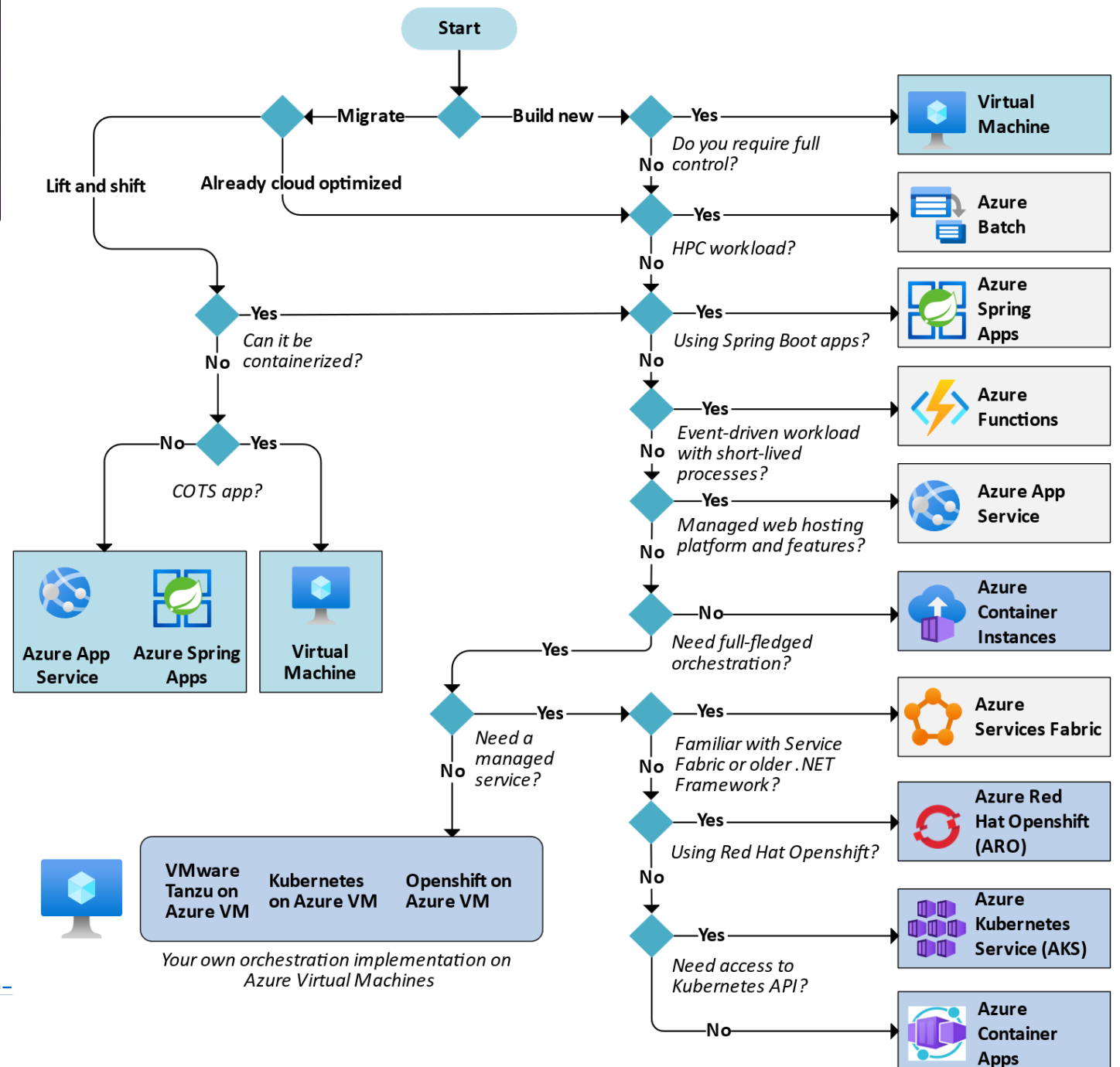**Magic Quadrant for Cloud Infrastructure and Platform Services 2022**

Resources :
https://www.cxtoday.com/data-analytics/gartner-magic-quadrant-cloud-infrastructure-platform-services-2022/

Azure Compute Services

Start

Migrate — Build new

Lift and shift — Already cloud optimized

Build new → **Yes** → Virtual Machine
Do you require full control?

No → **Yes** → Azure Batch
HPC workload?

No → **Yes** → Azure Spring Apps
Using Spring Boot apps?

No → **Yes** → Azure Functions
Event-driven workload with short-lived processes?

No → **Yes** → Azure App Service
Managed web hosting platform and features?

No → **No** → Azure Container Instances
Need full-fledged orchestration?

Yes → **Yes** → Azure Services Fabric
Familiar with Service Fabric or older .NET Framework?

No → **Yes** → Azure Red Hat Openshift (ARO)
Using Red Hat Openshift?

No → **Yes** → Azure Kubernetes Service (AKS)
Need access to Kubernetes API?

No → Azure Container Apps

Can it be containerized?
Yes → (continue)
No → *COTS app?*
No → Azure App Service / Azure Spring Apps
Yes → Virtual Machine

Need a managed service?
Yes → (continue)
No → VMware Tanzu on Azure VM / Kubernetes on Azure VM / Openshift on Azure VM

Your own orchestration implementation on Azure Virtual Machines

Resources : https://learn.microsoft.com/en-us/azure/architecture/guide/technology-choices/compute-decision-tree

App Service

Support

- ASP.NET, Java, Node.js, PHP, Python, Custom container

- CI/CD – GitHub, BitBucker, Docker Hub, Azure DevOps

- Automated Scale Up or Out

- SLA 99.99%

- Built-in authentication & authorization

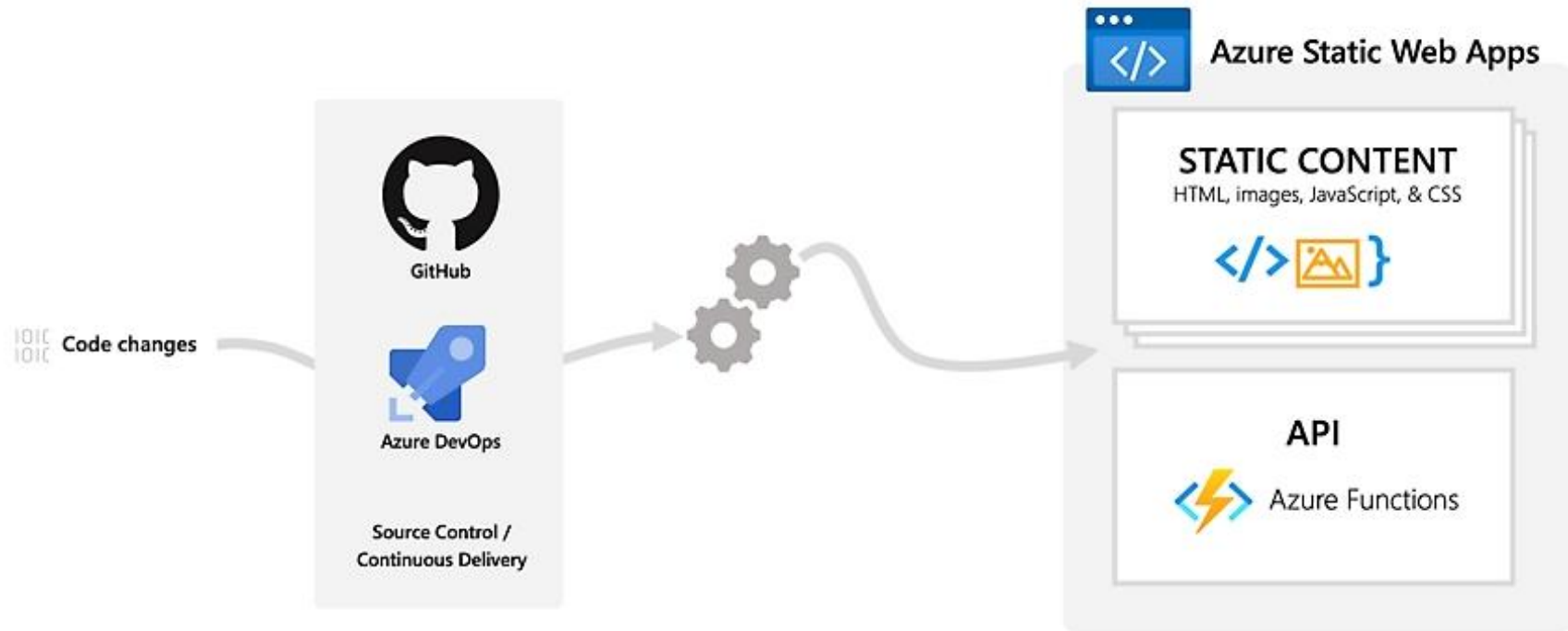 MS Entra, MS Account, Facebook, Google, Twitter

App Service - Demo
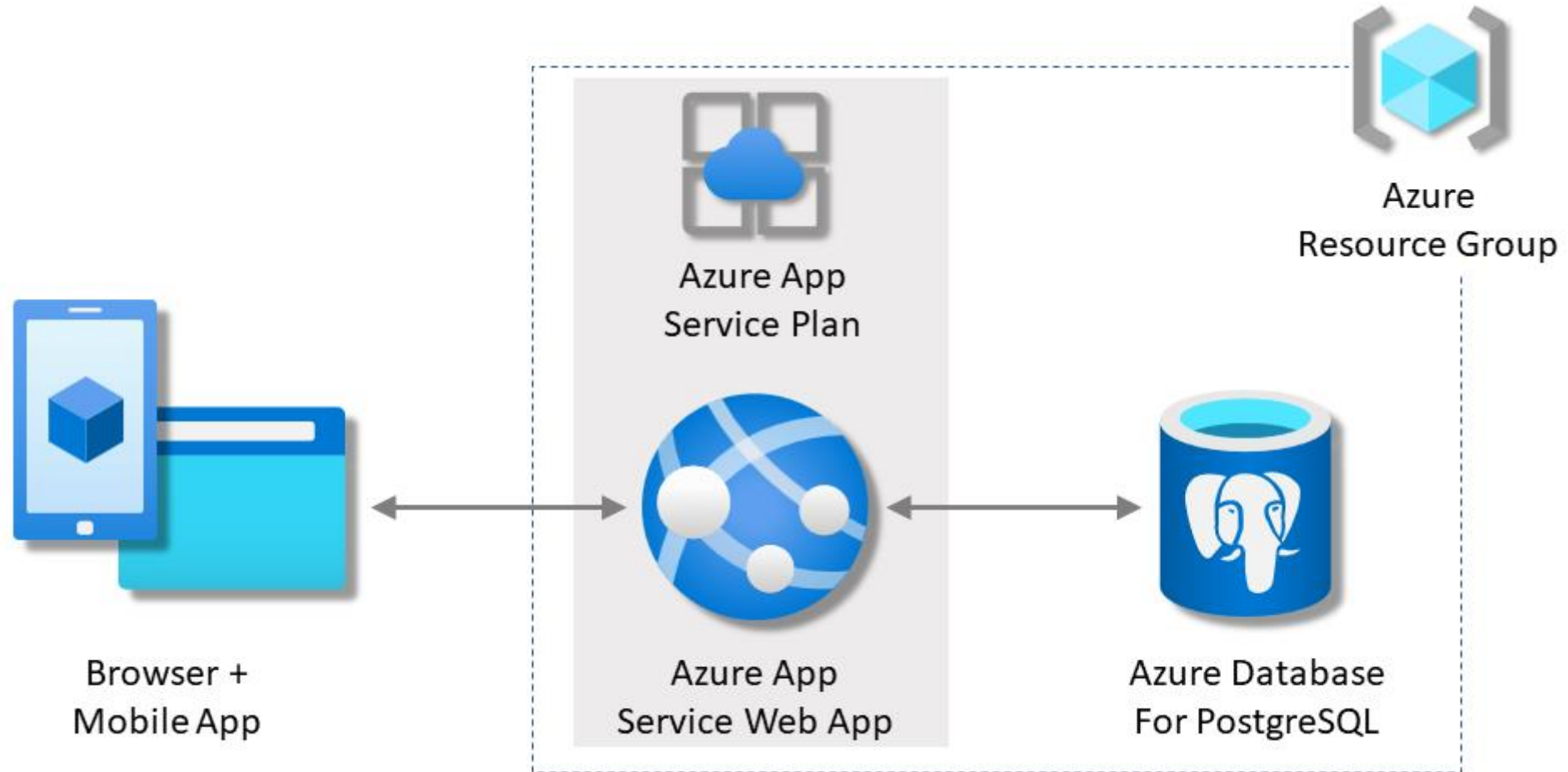
Static Web Apps

Google Firebase

AWS Amplify

GitHub Pages

Demo

Databases on Azure

Cloud Comparison Cheat Sheet

blog.bytebytego.com

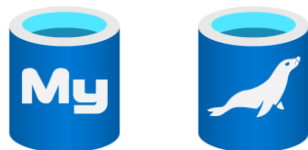| aws	Azure	Google Cloud	ORACLE CLOUD
RDS	SQL Database	Cloud SQL	ATP
DynamoDB	Cosmos DB	Firebase Realtime Database	NoSQL Database

Databases on Azure

Relational

SQL Database
SQL Server

Oracle

PostgreSQL

MySQL
MariaDB

NoSQL

Cosmos DB for NoSQL
Cosmos DB for MongoDB

Apache Cassandra

Caching

Redis

Enterprise Application Standard

- Reliability（SLA，HA）

- Authentication/Authorization

- Security

- Technical Debts

- Logging

- Performance

- Testing

- Scalability

- Infrastructure as a Code

- Standardize

Q&A