

# Architecting Apps for Azure

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# Architecting Apps for Azure

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- Architecting for the cloud is different than classic Software

## Architecture

- Two main differences:
  - Use existing services
  - Consider cost

# Use Existing Services

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- Azure contains hundreds of services
- Whenever possible – use them
- Usually:
  - Managed
  - Reliable and Scalable
  - Cost effective

# Consider Cost

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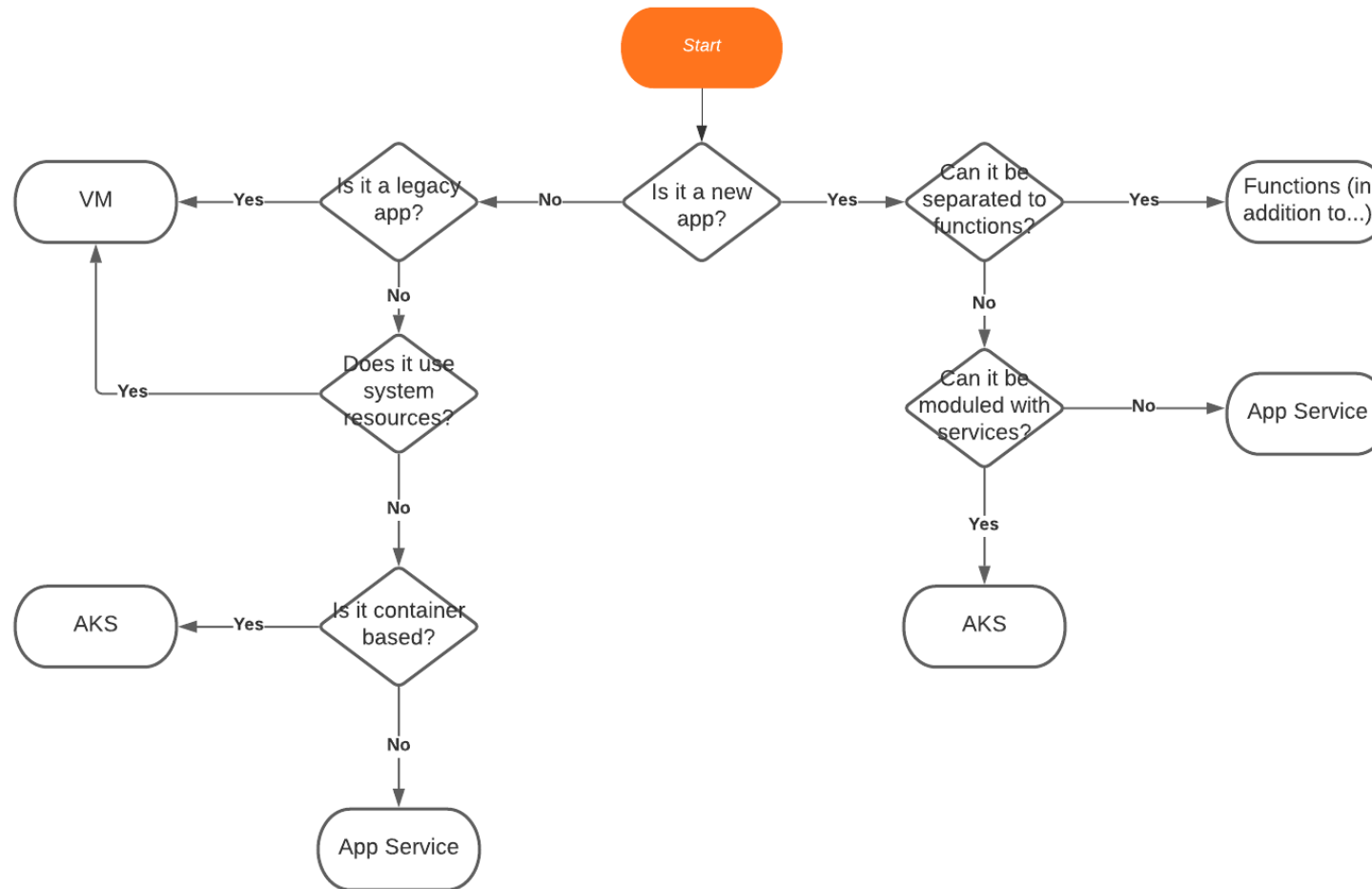
- Cloud Architecture is cost oriented
- Always factor in the cost of the cloud service
- You'll sometimes go for limited service due to cost reasons
  - eg. Storage Queue vs Service Bus

# Cloud Architecture

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- In this section we'll review the various services we used and explain how to select the right one
- We'll discuss:
  - Compute
  - Data
  - Messaging
  - And some more...

# Choosing Compute Platform



# Choosing Data Platform

Data Type	Used For...	Examples	Options in Azure
Relational	Structured data	Items in store, demographic data	Azure SQL, MySQL, PostgreSQL
NoSQL	Semi-structured data	Reviews, Log records, when flexibility is required	Cosmos DB (with SQL, Mongo, Azure Table API)
Graph	Data representing relationships	Family tree	Cosmos DB (with Gremlin API)
Blob	Files, videos, docs	Items' photos	Azure Blob Storage

# Choosing Messaging Platform

Service	Used For...	Guarantees Order	Max Msg Size	And also...
Storage Queue	Dead simple queueing	Yes	64KB	Extremely simple, no additional cost
Event Grid	Event driven architectures	No	1MB	Great integration with other services
Service Bus	Advanced queueing solutions	Yes	256KB	Advanced messaging features, durable
Event Hubs	Big data streaming	Yes	1MB	Low latency, designed for heavy load

# Implementing Security

- Extremely important in the cloud
- Use the best practices discussed in the Security section
- Mainly:
  - Restrict access to VMs and App Services
  - Use NSG
  - Use encryption in data stores
  - Use strong authentication

# Logging and Monitoring

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- Azure offers various logging and monitoring tools
- Utilize alerts to notify on any exceptional situation
- Create dashboards to visualize the system state
- Use Application Insight to gain insights into your app

# Azure Architecture Center

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- Central hub for all-things Azure architecture
- How-tos, documents, design guidelines, case studies
- Fresh content, updated regularly

# Azure Architecture Center

Guidance for architecting solutions on Azure using established patterns and practices.



ARCHITECTURE

**Browse Azure  
architectures**



CONCEPT

**Explore cloud best  
practices**



HOW-TO GUIDE

**Assess, optimize,  
and review your  
workload**



WHAT'S NEW

**See what's new**

## Architecting Applications on Azure

Best practices and patterns for building applications on Microsoft Azure



<https://docs.microsoft.com/en-us/azure/architecture>

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