

DBA MASTERY



SQL Server containers in
Microsoft Azure





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Experience

Microsoft Data Platform MVP

Friend of Redgate

+10 years of experience multi-platform
Solutions architect

Community

GTSSUG – Community Leader

Speaker, author, blogger, mentor

Simple Talk, SQL Server Central & MSSQL Tips

DBA Mastery

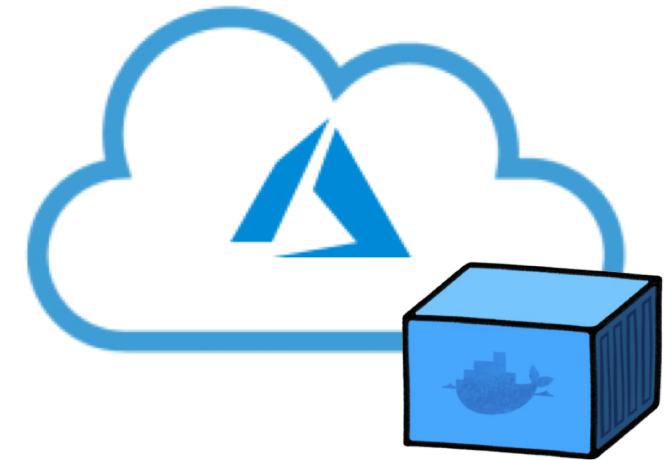
Tips, scripts, best practices & more



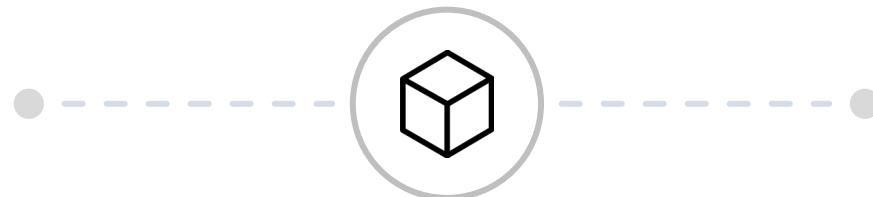
MAXDOP Calculator
Azure Data Studio wait stats widget
Azure Data Studio notebooks
PerfMon for DBAs - PowerShell

Agenda

- Containers, what and why?
- SQL Server containers
- Containers in Azure
 - Azure Container Registry (ACR)
 - Azure Container Instances (ACI)
 - Azure Kubernetes Services (AKS)



Industry analysts agree



"By 2023, more than 75% of global organizations will run mission-critical, containerized cloud-native applications in production, up from less than 30% today."

Gartner[®]

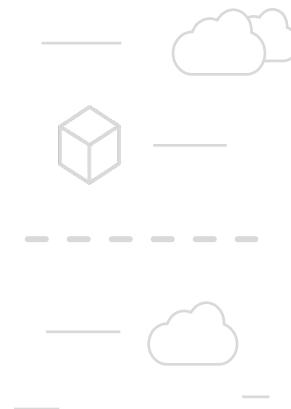
Containers, what and why?



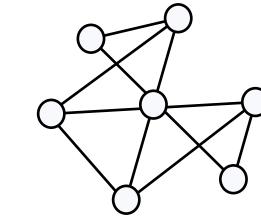
What are containers?



Standard



Lightweight



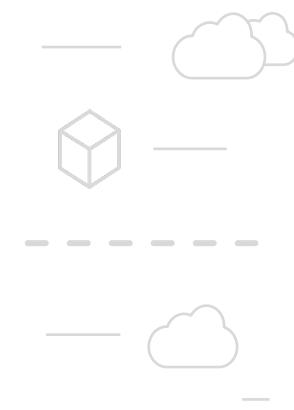
Cross platform



Why containers?



Speed



Simple

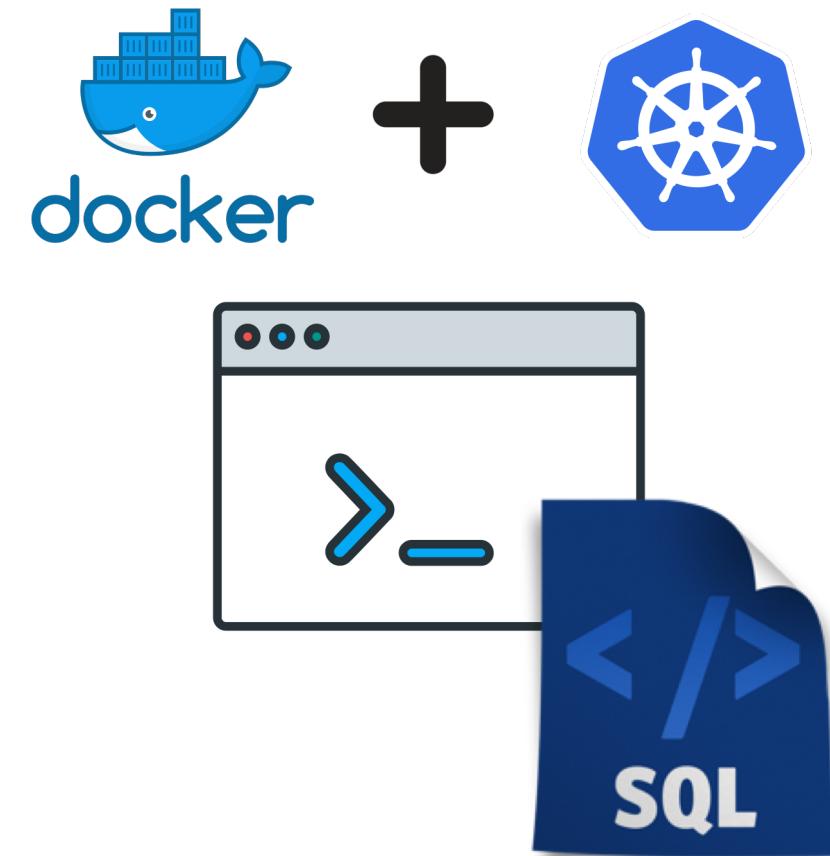


Packaging

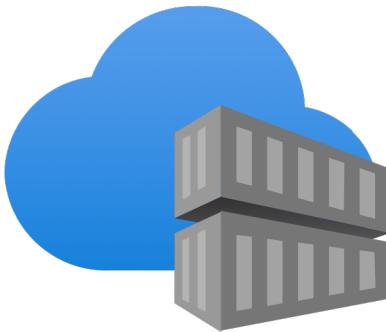


SQL Server containers?

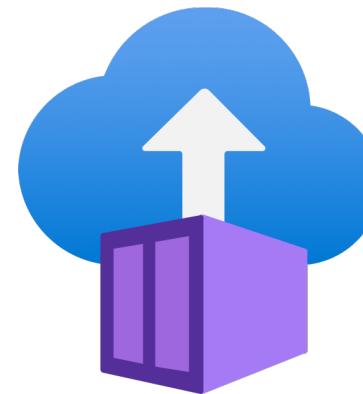
- Easy and simple
- Agile
- DevOps
- Compute | Storage
- Docker & Kubernetes



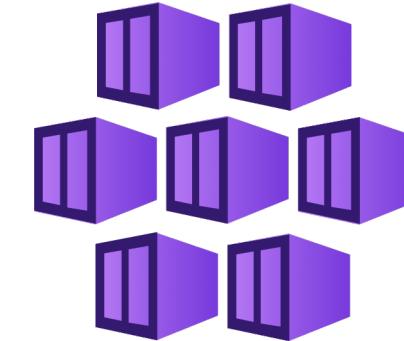
SQL Containers in Azure?



Azure Container
Registry



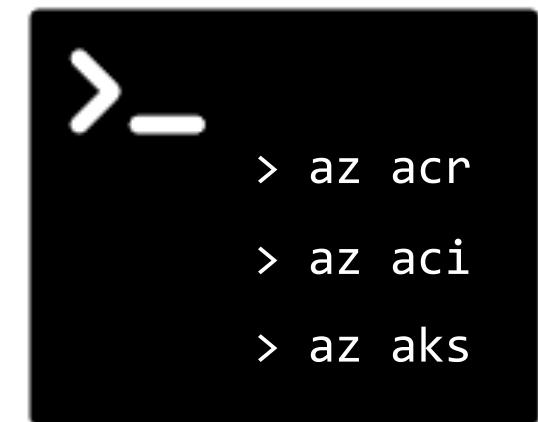
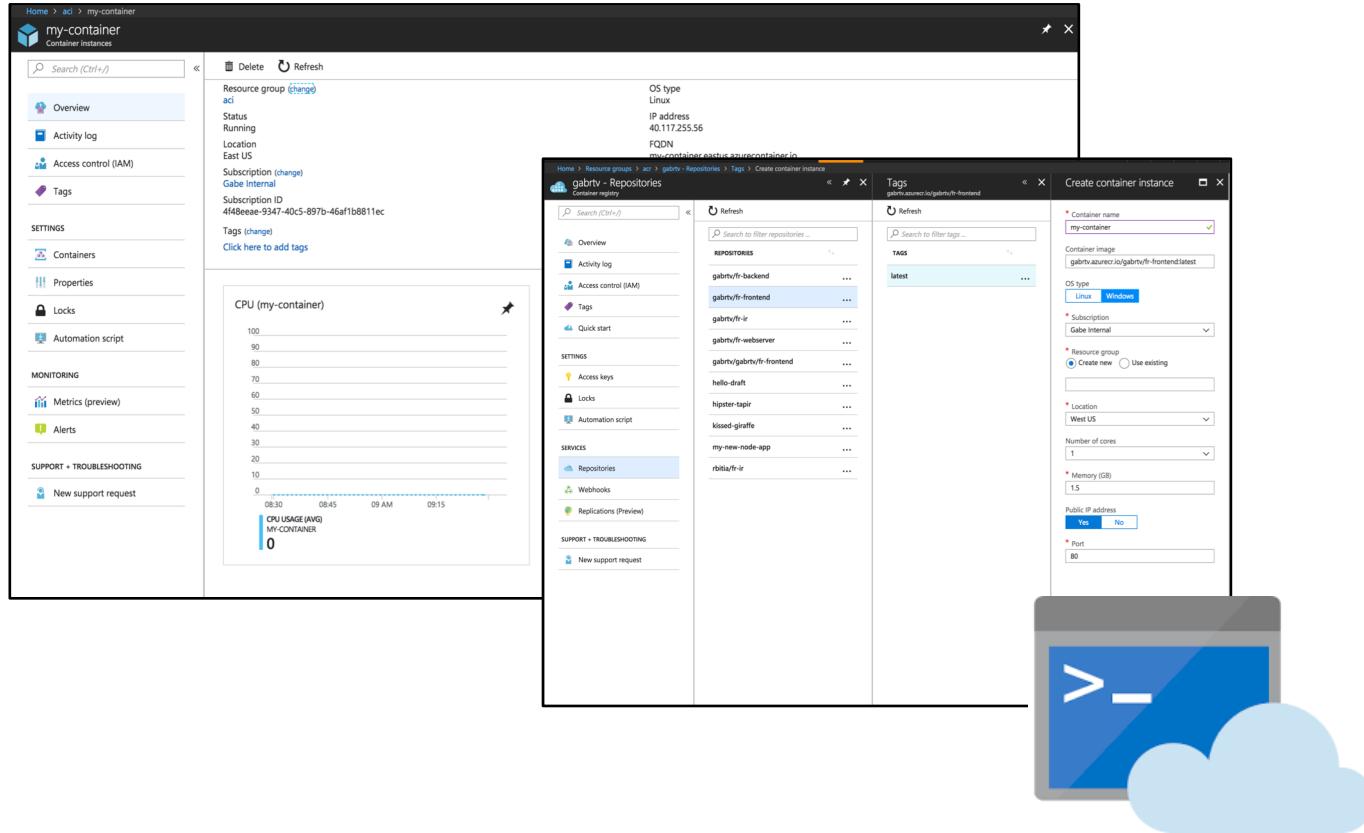
Azure Container
Instances



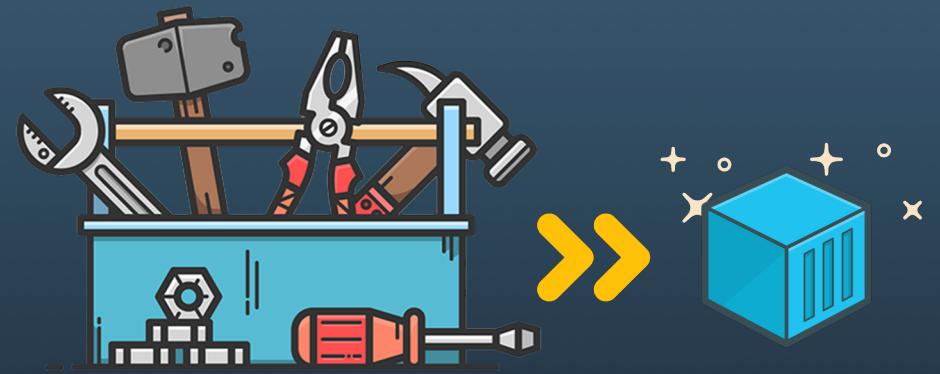
Azure Kubernetes
Services



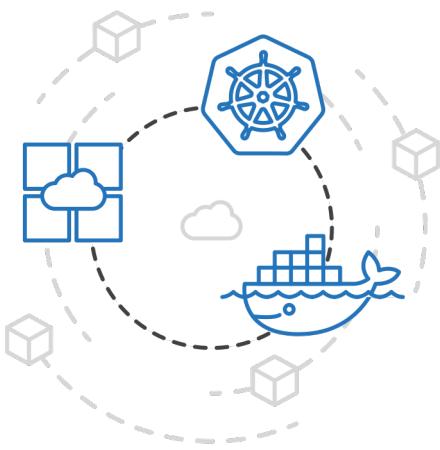
Portal + Azure & Docker CLI



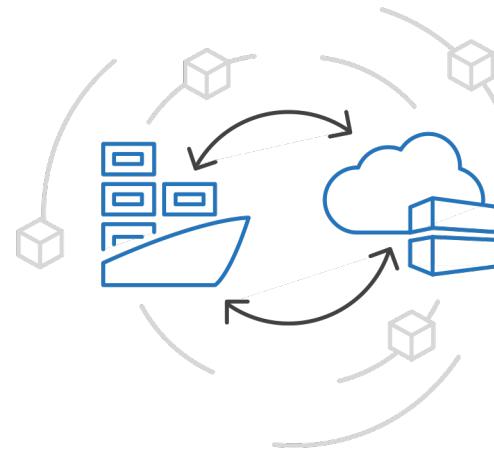
Azure Container Registry (ACR)



Azure Container Registry (ACR)



Manage images for all
types of containers



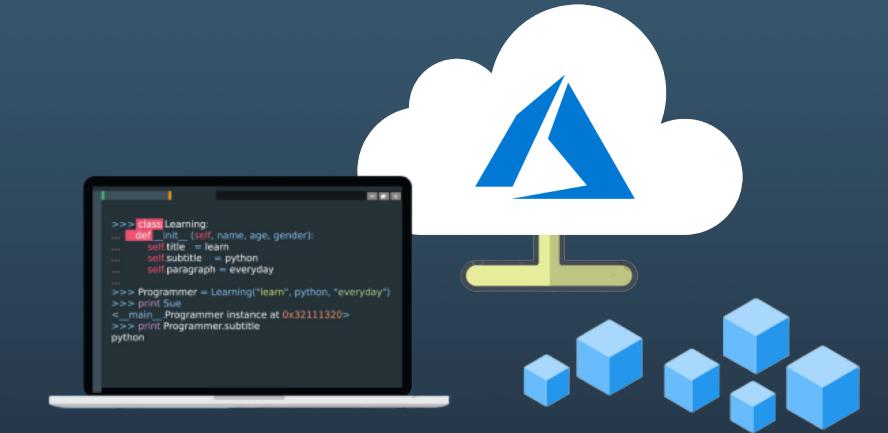
Use familiar, open-
source Docker CLI tools



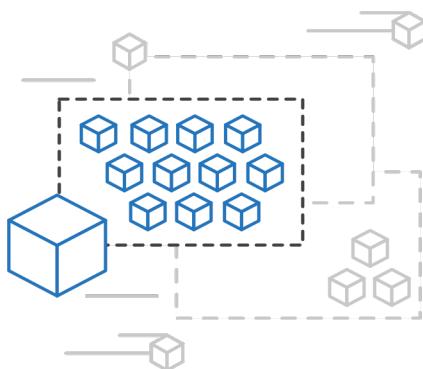
Azure Container Registry
geo-replication



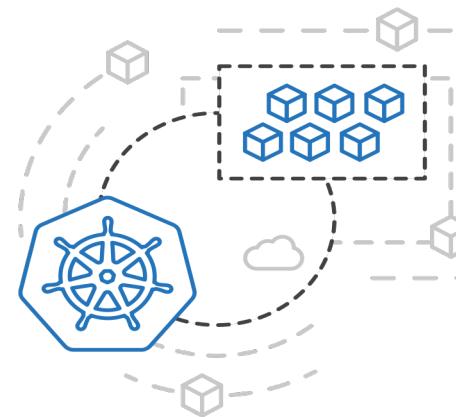
Azure Container Instances (ACI)



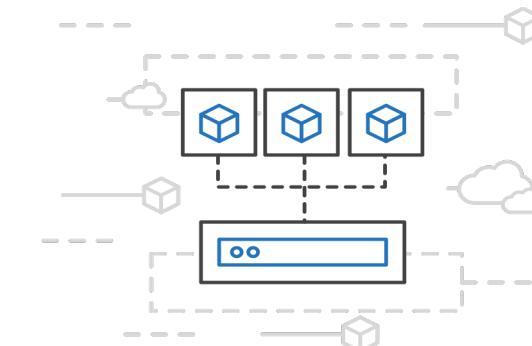
Azure Container Instances (ACI)



Run containers without managing servers



Containers as a primitive billed per second



Secure applications with hypervisor isolation



Why ACI?



Invisible
infrastructure

Micro-billing

Modularity

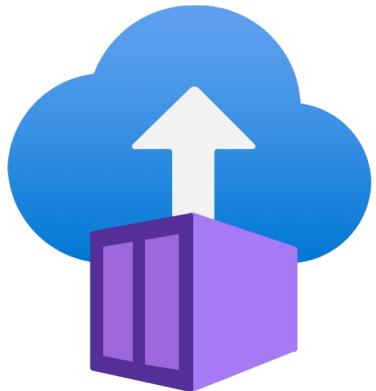


Demo

ACI run, integrate & monitor



ACI - Demo recap



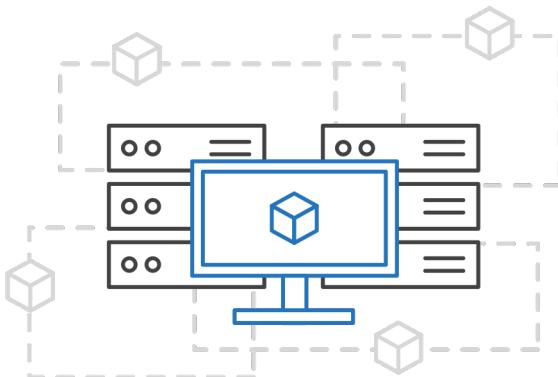
- Azure + Docker CLI & portal 
- Azure container instances + Azure file share
- Azure file explorer 
- Multi-container deployment (YAML) 



Azure Kubernetes Services (AKS)



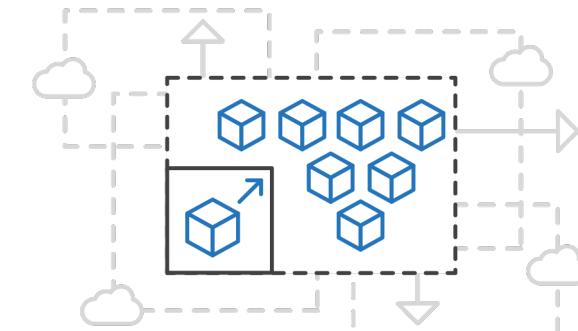
Azure Kubernetes Services (AKS)



Focus on your
containers not the
infrastructure



Work how you want
with open-source
APIs



Scale and run
applications with
confidence



Why AKS?



Easy cluster
scaling

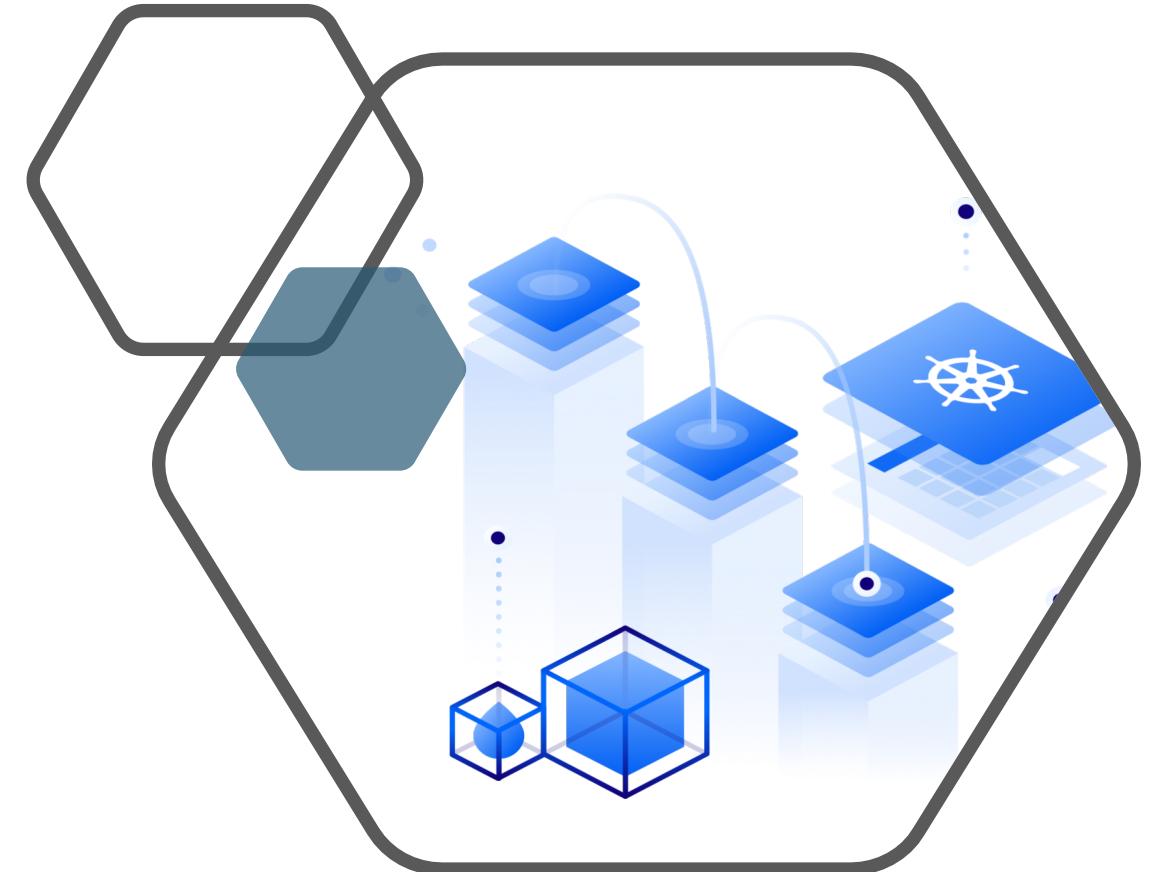
Managed
control pane

Automated
upgrades

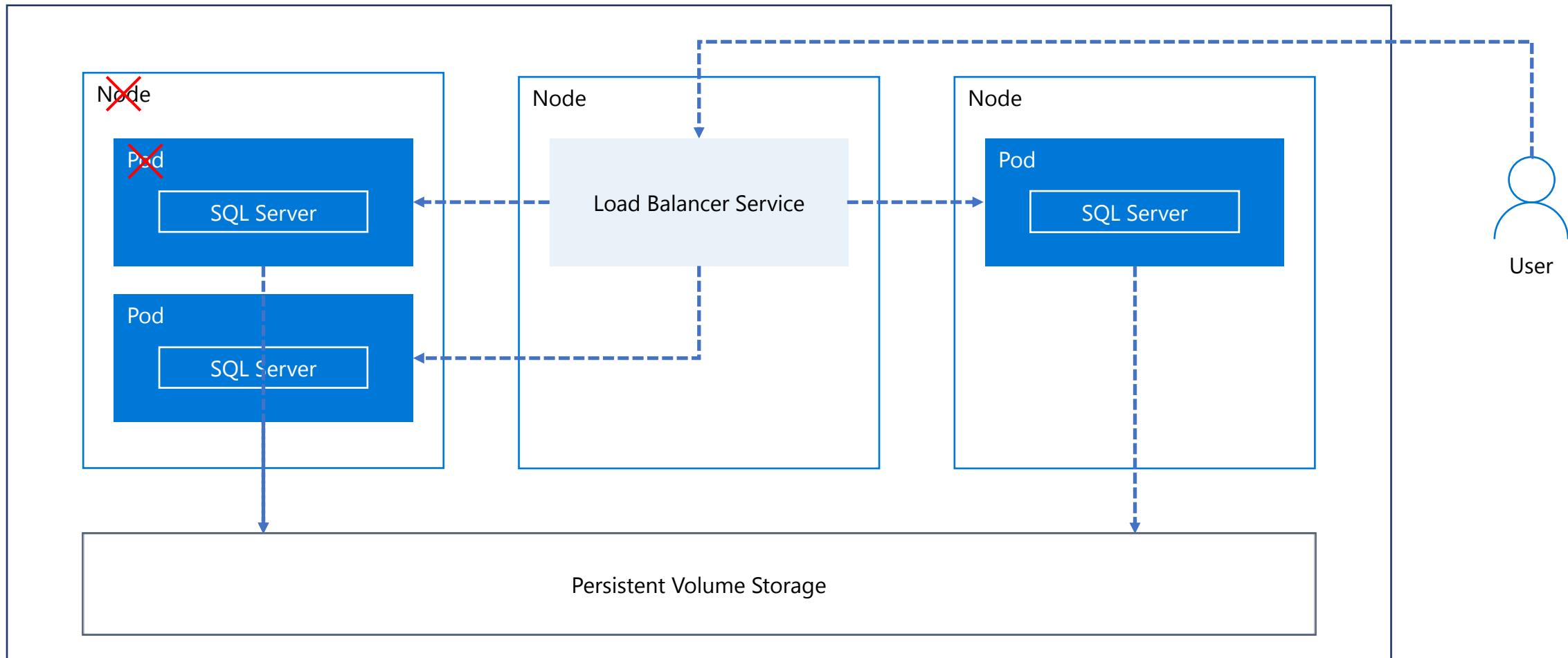


Demo

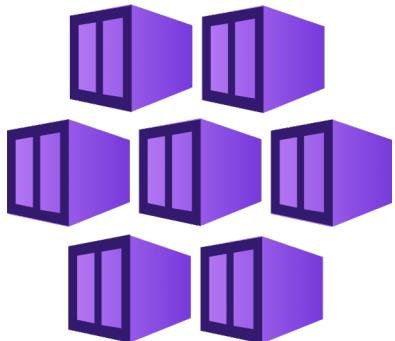
AKS deploy, orchestrate



Master



AKS - Demo recap



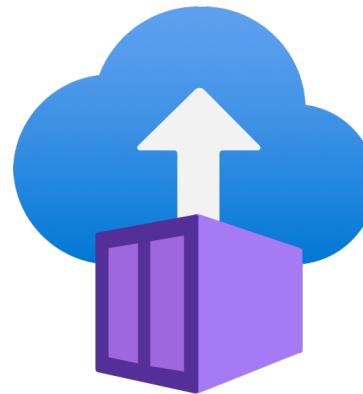
- Compute / storage is separate
- Declarative management 
- HA out of the box! 
- Managed control pane 



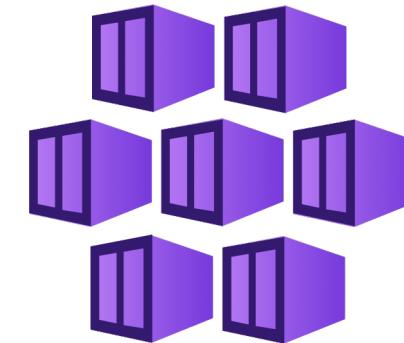
Review



Azure Container
Registry



Azure Container
Instances



Azure Kubernetes
Services



Build, tag, push

Run, integrate

Deploy, orchestrate,
scale

Questions?



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References

- **Official documentations**
 - [Docker Docs](#)
 - [Kubernetes Docs](#)
- **SQL Server**
 - [SQL Server workshops](#)
 - [SQL Server in Docker](#)
- **Books**
 - [The Phoenix / Unicorn Project](#)
 - [The DevOps Handbook](#)
 - [Kubernetes: Up and Running](#)
 - [Designing Distributed Systems](#)
 - [Pro SQL Server On Linux by Bob Ward](#)
- **Pluralsight**
 - [Getting Started with Docker](#)
 - [Docker Deep Dive](#)
 - [Docker and Kubernetes: The big picture](#)
 - [Kubernetes Installation and Configuration fundamentals](#)
- **Microsoft Learning**
 - [Kubernetes Learning Path](#)
 - [SQL Workshops](#)
- **Katacoda**
 - [Docker](#)
 - [Kubernetes](#)



More about SQL Containers?

- Published articles
 - [Redgate - Simple Talk](#)
 - [SQL Server Central](#)
 - [MSQL Tips](#)



redgate





Microsoft



Administering containers in Azure

(Learning path)



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Thanks!

