



Azure Services Compute

Alan Tsai



這節主要重點



- Azure Services
- Compute Service
 - Virtual Machine
 - Web App
 - Azure Container Instances (ACI)
 - Azure Kubernetes Service (AKS)
 - Azure Virtual Desktop

Azure Services





Azure 有 600 個以上的服務













“Microsoft lists over 600 Azure services, [\[4\]](#) of which some are covered below:”



WIKIPEDIA
The Free Encyclopedia




Security & Management

-  Security Center
-  Azure portal
-  Azure Active Directory
-  Azure AD B2C
-  Multi-Factor Authentication
-  Automation
-  Key Vault
-  Azure Marketplace
-  VM Image Gallery
-  REST API and CLI





Media & CDN

-  Media Services
-  Media Analytics
-  Content Delivery Network

Integration








-  API Management
-  Service Bus
-  Azure Logic Apps

Compute Services







-  Container Service
-  VM Scale Sets
-  Azure Batch
-  Dev/Test Lab

Platform Services








Application Platform

-  Web Apps
-  Mobile Apps
-  API Apps
-  Cloud Services
-  Service Fabric
-  Notification Hubs
-  Functions

Developer Services

-  Visual Studio
-  Mobile Engagement
-  Azure DevOps
-  Xamarin
-  Application Insights
-  Visual Studio App Center











Data

-  SQL Database
-  Azure Synapse Analytics
-  Cosmos DB
-  SQL Server Stretch Database
-  Azure Cache for Redis
-  Table Storage
-  Azure Search








Intelligence

-  Cognitive Services
-  Bot Services
-  Azure ML Studio

Analytics & IoT

-  HDInsight
-  Machine Learning
-  Stream Analytics
-  Data Catalog
-  Data Lake Analytics Service
-  Data Lake Storage
-  IoT Hub
-  Event Hubs
-  Data Factory
-  Power BI Embedded

Hybrid Cloud

-  Azure AD Connect Health
-  AD Privileged Identity Management
-  Domain Services
-  Backup
-  Azure Monitor
-  Import/Export
-  Azure Site Recovery
-  StorSimple

Infrastructure Services

Compute

-  Virtual Machines
-  Containers and Azure Kubernetes

Storage

-  Blob
-  Queues
-  Files
-  Disks

Networking

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

Datacenter Infrastructure

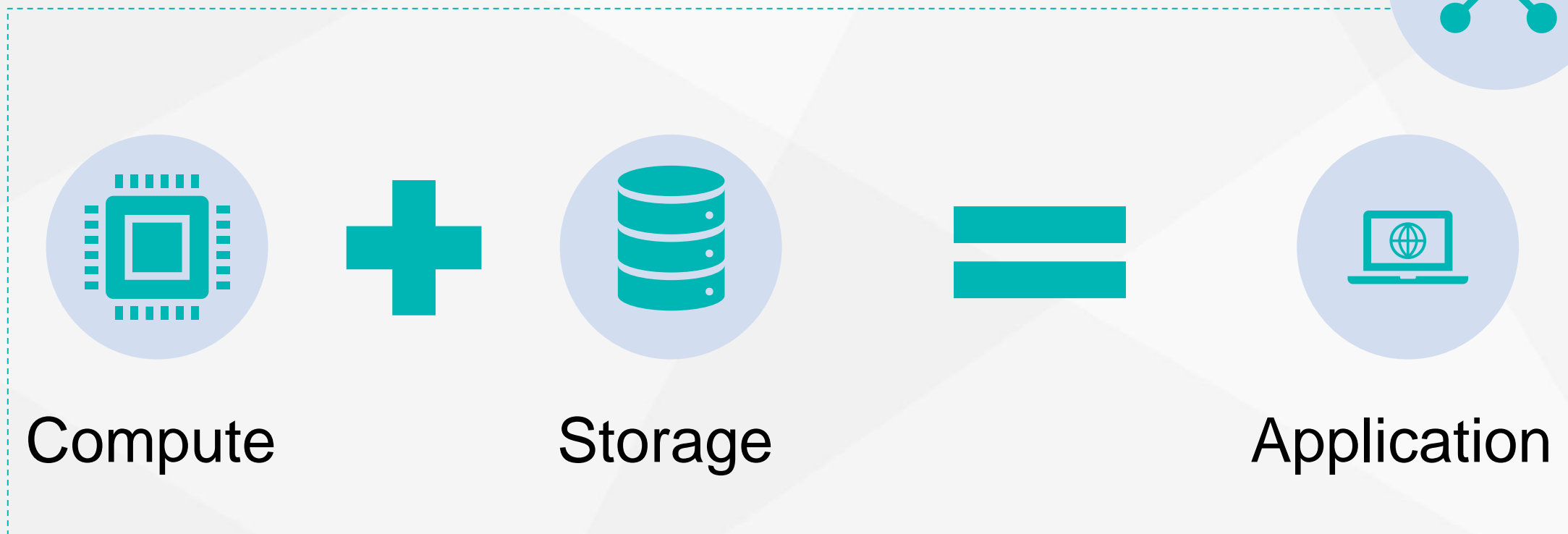




最基本的組成



Load Balance



Azure Compute Services



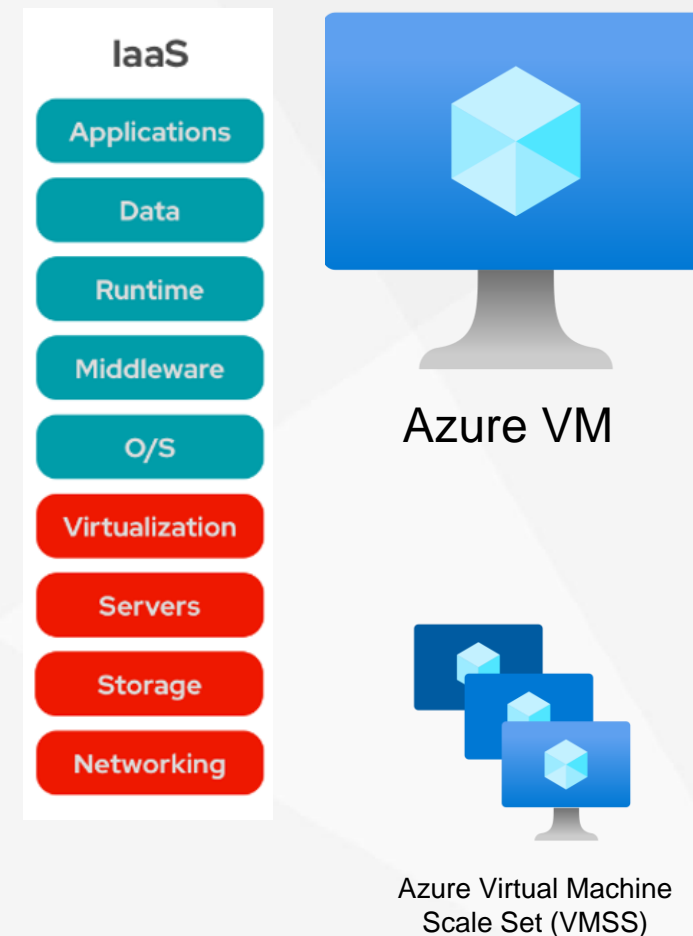


Azure Virtual Machines



- IaaS 服務
 - 完全控制機器
 - 自己打 patch
- 可以用來開發/測試
 - 不需要的時候可以關機節省費用
- 有些程式需要一些舊的 Library
 - 可以自己安裝

[Windows virtual machines in Azure](#)





Availability Set



[Home](#) > [Virtual machines](#) >

Create a virtual machine

Region * ⓘ (US) Central US ▼

Availability options ⓘ Availability set ▼ ¹

Availability set * ⓘ No existing availability sets in current resource group and location. ▼ ²
[Create new](#)

Image * ⓘ Ubuntu Server 18.04 LTS - Gen1 ▼
[Browse all public and private images](#)

Azure Spot instance ⓘ ☐ Yes ☒ No

Size * ⓘ Standard_DS2_v2 - 2 vcpus, 7 GiB memory (\$3,203.18/month) ▼
[Select size](#)

Administrator account

Create new



Group two or more VMs in an availability set to ensure that at least one is available during planned or unplanned maintenance events.
[Learn more](#)

Name *

³

Fault domains ⓘ

2

Update domains ⓘ

5

Use managed disks ⓘ

☐ No (Classic) ☒ Yes (Aligned)



High Availability



- SLA 保證
- 2 台同 Availability Set
 - 99.95%
- 1 台 Premium+ SSD Disk
 - 99.9%

SLA level of 99.95 % uptime/availability results in the following periods of allowed downtime/unavailability:

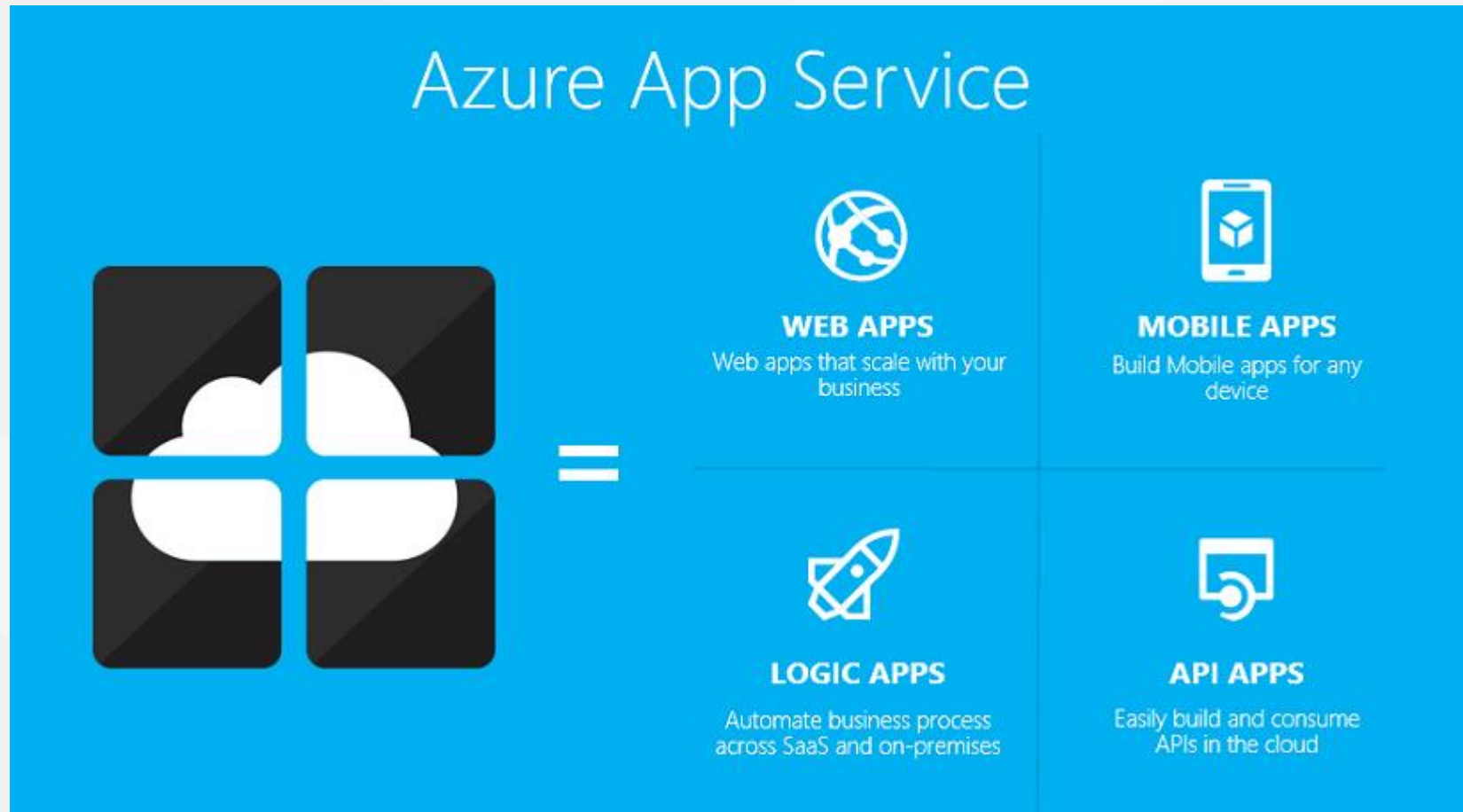
- **Daily:** 43s
- **Weekly:** 5m 2s
- **Monthly:** 21m 54s
- **Yearly:** 4h 22m 58s

SLA level of 99.9 % uptime/availability results in the following periods of allowed downtime/unavailability:

- **Daily:** 1m 26s
- **Weekly:** 10m 4s
- **Monthly:** 43m 49s
- **Yearly:** 8h 45m 56s



Azure App Service



App Service overview



Azure App Service



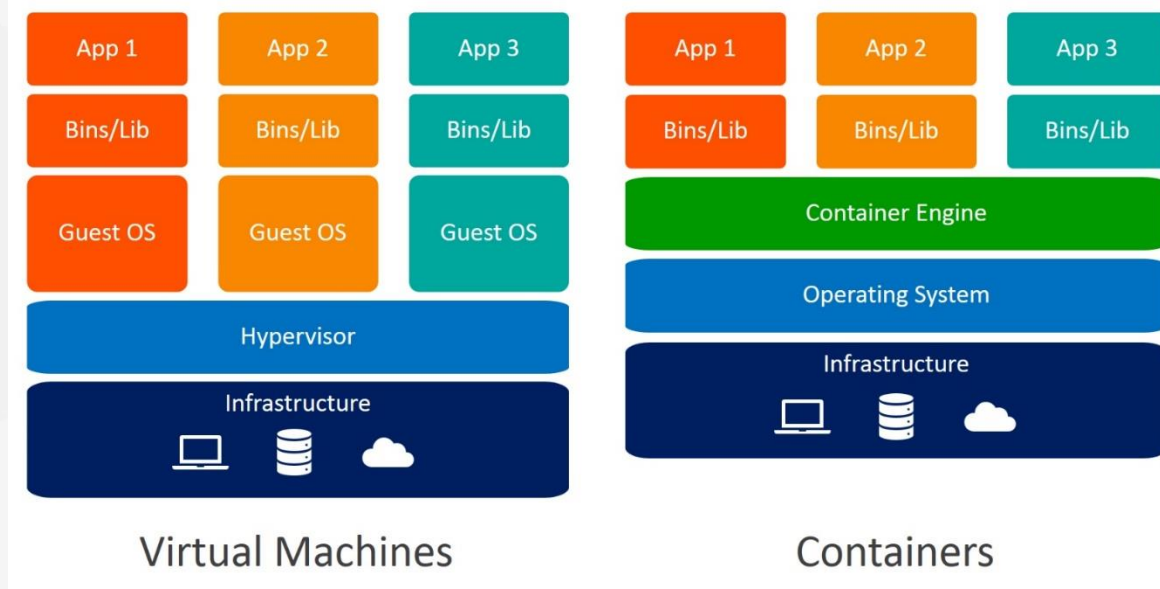
- PaaS 服務
 - 不需要管理底層作業系統更新
- 支援 Windows 以及 Linux 環境
 - Container
- 支援多種語言
 - .NET Core/Framework, Node.js, Python, PHP, Java, Ruby
- 提供 99.95 SLA



Container



- 簡單來說，更輕量化的虛擬技術
 - 確保只要能夠執行 image，那邊執行結果都一樣
- 某種程度來說，類似 PaaS 的概念

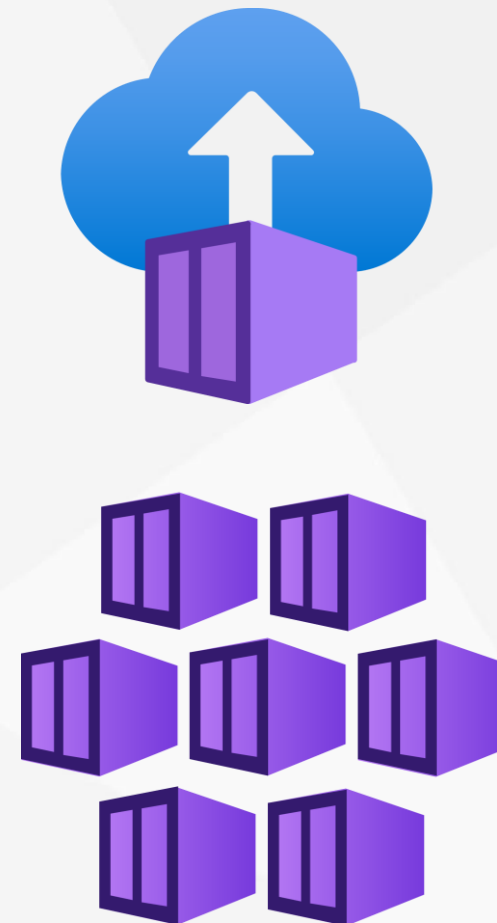




Azure Container Services



- Azure Container Instance (ACI)
 - PaaS 服務用來執行單一個 container
 - [What is Azure Container Instances?](#)
- Azure Kubernetes Service (AKS)
 - Kubernetes 的 PaaS 服務
 - 管理大量 Container – 微服務
 - [Azure Kubernetes Service \(AKS\)](#)





Azure Virtual Desktop



- 將桌面應用程式虛擬化
- 在任何地方使用雲端上面的 Windows
 - Remote work
- 減少需要的機器
 - 一台可以多人同時登入使用



[What is Azure Virtual Desktop?](#)

結語





結語



- 了解了 Azure Service 的類型
- 了解了和 Compute 有關的服務



作業



- [Explore Azure compute services](#)



下一篇



- Storage 相關的服務
- Network 相關的服務
- 一些常見的 Solution