Microsoft Azure

AZURE PORTAL OVERVIEW AND GENERAL BEST PRACTICES

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#GlobalAzure

We're Here to Talk About

- Cloud computing
- Microsoft Azure basics
- How to use the Azure portal
- Managing resources
  - Portal
  - CLI
  - PowerShell
- Best practices
- Resources to facilitate learning

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A little about me

Dev(Sec)Ops | Automation | Cloudie | Application Development | Not-so-Big Data | Power BI

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Flow of Conversation

- Overview of Cloud Computing and Azure
- Azure Portal Demos
- Best Practices / Tips
- Q&A

Feel free to put your hand up and ask questions along the way!

Tell me about cloud computing

Cloud Computing

- Delivery of hosted services over the internet
  - As opposed to using a local machine
  - Resources are often virtualized
- Pay on a usage basis
- Email, store pictures, watch videos
- Common terms:
  - Deployment Models
  - Types of Cloud Services

Deployment Models

Public Cloud

- Offered over public network and available to anyone for purchase
- Microsoft Azure, AWS

Private Cloud

- Infrastructure and resources operated solely for a single organization
- Private network
- Can be hosted by third party (Rackspace, Sunguard) or on-prem

Hybrid Cloud

- Combination of public and private clouds bound together
- DB servers on-prem, web app in cloud

Types of Cloud Services:
Cloud Computing Stack

IaaS

- Base Layer
- User will purchase, install, configure, and manage, including update, your own software/OS
- Examples:
  - VM/VM Scale Sets, Containers, Hard Drive (Storage), Network, Load Balancers
  - VM with SQL Server installed
- Usage:
  - Data Analysis, research, high computing needs, IT

PaaS

- IaaS plus operating system, programming language execution environment, database, web server, etc.
- User manages data and applications, provider manages everything else
- Examples:
  - Azure SQL Server, HDInsight, App Services, Functions
- Usage:
  - Develop apps, developers

SaaS

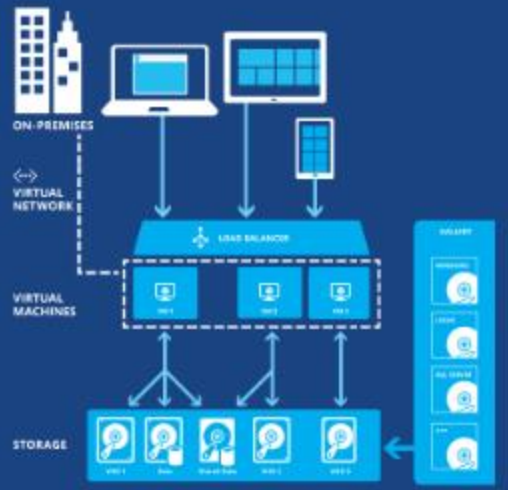
- Cloud based applications offered over the internet
- Examples:
  - Google Apps, Office 365
- Usage:
  - Consumers

This is great stuff! Now, what can you tell me about Azure? 🤓

What is Microsoft Azure?

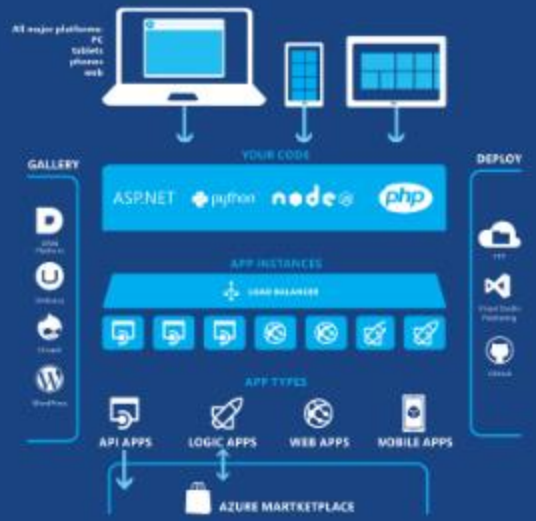
us/resources/infographics/azure/

Virtual Machines



Cloud Services

App Service



Microsoft Azure

Microsoft Azure is a flexible, open, and secure public cloud built for business. Access a broad collection of integrated services that accommodate many languages and operating systems. Use world-class tools to accelerate a wide variety of app development and delivery capabilities.

Free trial!

Use $200 credit to try any combination of Azure resources:

aka.ms/TryAzure

Search azure.microsoft.com, MSDN, or TechNet for keywords found in this poster

Catalog of Services

COMPUTE
- Virtual Machines
- Cloud Services
- Service Fabric
- Batch
- Scheduler
- Remote App

NETWORKING
- Virtual Network
- Express Route
- Traffic Manager

IDENTITY & ACCESS
- Active Directory
- Multi-Factor Authentication

MEDIA & CDN
- Media Services
- CDN

WEB & MOBILE
- Web Apps
- Mobile Apps
- API Apps
- Logic Apps
- API Management
- Notification Hubs

ANALYTICS
- HDInsight
- Machine Learning
- Stream Analytics
- Data Factory
- Event Hubs
- Mobile Engagement

STORAGE & BACKUP
- Storage Blobs & Files
- Backup
- Import / Export
- Site Recovery
- StorSimple

DATA
- SQL Database
- DocumentDB
- Redis Cache
- Search
- Tables

DEVELOPER SERVICES
- Visual Studio Online
- Application Insights

HYBRID INTEGRATION
- Storage Queues
- BizTalk Services
- Hybrid Connections
- Service Bus

MANAGEMENT
- Automation
- Portal
- Key Vault
- Operational Insights

COMMERCE
- Store / Marketplace
- VMDepot

Azure Basics

- Compute
  - Platform to execute applications
  - VM, App Service, Functions
- Data Management/Storage
  - Azure SQL Server, DocumentDB, SMB, Blob, Table
- Networking
  - Virtual Networks, ExpressRoute, Traffic Manager, CDN

SHOW ME THE MONEY!

Best Practices/ Tips and Tricks

- Names are very important
  - Environment-ProductName-Purpose-AzureEntity-DataCenter
    - Prod-CRM-UI-Web-EastUS2
    - prodcrmstreastus2
    - Might need a numbering system based on scenario
- App service plan
  - Represents a set of features and capacity that you can share across multiple apps
  - Shared Infrastructure per environment
    - Prod-SharedInfrastructure-RG-EastUS2
  - Must be S1 Instances to use CNAMEs

Best Practices/ Tips and Tricks cont.

- SQL Server Firewall rule: Dynamic IPs will get you
  - Working from home
  - SQL Server itself, watch any internal monitoring
- SQL Server users
  - No parity between Azure and on prem – watch role creation
  - Georeplicated secondary – back create user on Master from target DB
- App Services
  - Use Connection String to hid secrets
  - Key Vault

Best Practices/ Tips and Tricks cont.

- Tags on all resources
  - Billing
  - Schedule deletes of old resources
- Locks on Resource Groups
  - Prevent accidental deletion
- Set up Service Principal for automation
  - Allows non-interactive login
  - Service Account
- No CNAMEs on Storage accounts

Resources

- *Azure Overview*: https://docs.microsoft.com/en-us/azure/fundamentals-introduction-to-azure
- *Architecture and best practice for setting up and configuring cloud architectures*: https://docs.microsoft.com/en-us/azure/architecture/
- *Azure Resource Explorer*: https://resources.azure.com/
- *Videos*: Friday.azure.com
- *AzCopy command line utility*: https://docs.microsoft.com/en-us/azure/storage/storage-use-azcopy
- *Azure Data Movement Library*: https://docs.microsoft.com/en-us/azure/storage/storage-use-data-movement-library

Resources

- *Tags*: https://docs.microsoft.com/en-us/azure/azure-resource-manager/resource-group-using-tags
- *Azure Datacenter IP Ranges*: *https://www.microsoft.com/en-us/download/details.aspx?id=41653*
- *Resource Manager/ARM Template:*
  - https://docs.microsoft.com/en-us/azure/azure-resource-manager/resource-group-overview
  - https://docs.microsoft.com/en-us/azure/azure-resource-manager/resource-group-template-deploy
  - https://docs.microsoft.com/en-us/azure/azure-resource-manager/vs-azure-tools-resource-groups-deployment-projects-create-deploy
- *Create Usage and Billing Power BI Report*: https://github.com/Microsoft/AzureUsageAndBillingPortal

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