

Course Agenda

- Module 01 – Cloud concepts
- Module 02 – Core Azure services
- Module 03 - Security, privacy, compliance, and trust
- Module 04 – Pricing and support

Certification areas (AZ-900)

Study areas	Weights
Understanding cloud concepts	15-20%
Understanding core Azure services	30-35%
Understand security, privacy, compliance, and trust	25-30%
Understand Azure pricing and support	25-30%

- This course maps directly to the exam AZ-900 Microsoft Azure Fundamentals.
- Percentages indicate the relative weight of each area on the exam.
- The higher the percentage, the more questions you are likely to see in that area.
- <http://aka.ms/azfunpath>



Our promises to you...

- Have some Fun!
- Learn at least one thing new!
- Make Ourselves available for you

So please ...

- Engage and enjoy!

Matt Hester

Sr. Azure Technical Trainer, Microsoft

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Location
Frisco, Texas



Garrett Bundy

Global Director – FUNdamentals
Team, Microsoft



Location
Los Angeles, CA



Module 1 – Learning objectives

- Describe and understand cloud services and their benefits.
- Understand key terms you will encounter when working with cloud services.
- Understand public, private, and hybrid cloud models.
- Understand infrastructure as a service (IaaS).
- Understand platform as a service (PaaS).
- Understand software as a service (SaaS).

Cloud computing

- Compute power - such as Linux servers or web applications.
- Storage - such as files and databases.
- Networking - such as secure connections between the cloud provider and your company.
- Analytics - such as visualizing telemetry and performance data.



Cloud providers include Microsoft, Amazon, and Google

Key concepts and terms

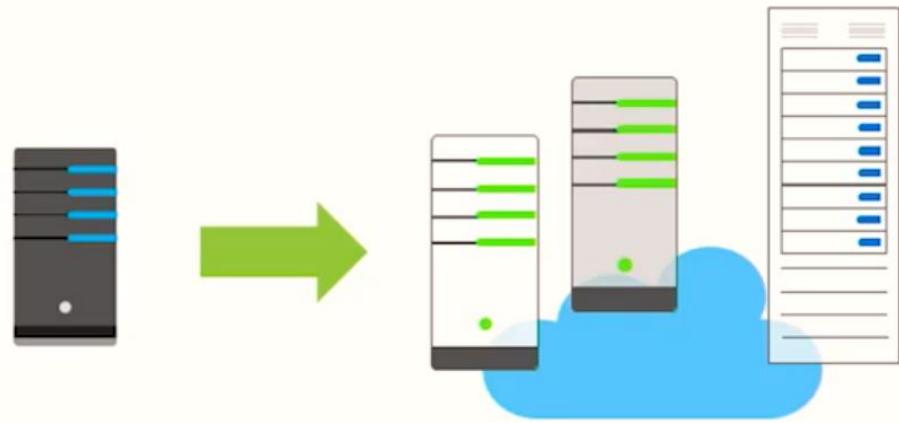
- High availability
- Scalability
- Elasticity
- Agility
- Fault tolerance

Key concepts and terms

- Disaster recovery
- Global reach
- Customer latency capabilities
- Predictive cost considerations
- Security

Economies of scale

- Less expensive
- More efficient
- Pass benefits on

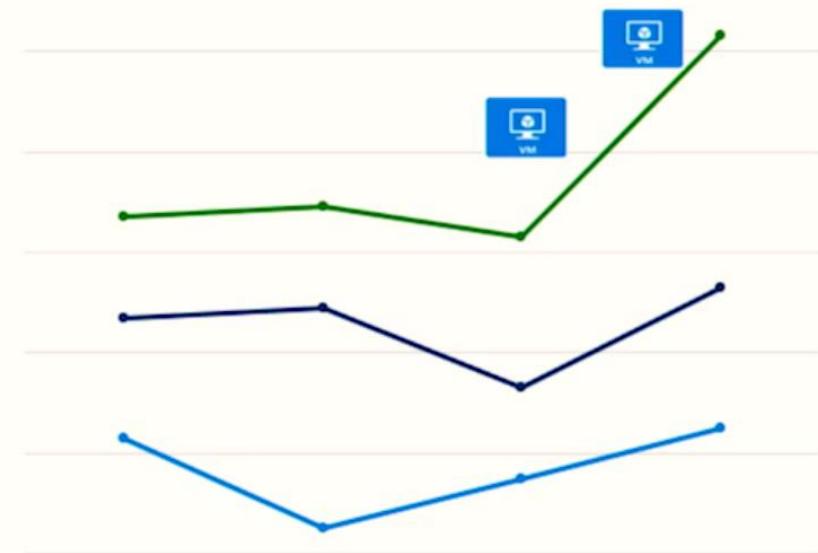


CapEx vs. OpEx

- Capital Expenditure (CapEx)
 - Spend on physical infrastructure upfront.
 - Deduct the expense from your tax bill.
 - High upfront cost, value of investment reduces over time.
- Operational Expenditure (OpEx)
 - Spend on services or products as needed.
 - Get billed immediately.
 - Deduct the expense from your tax bill in the same year.
 - No upfront cost, pay-as-you use.

Consumption-based model

- No upfront costs.
- No need to purchase and manage costly infrastructure.
- Ability to pay for additional resources as they are needed.
- Ability to stop paying for resources that are no longer needed.



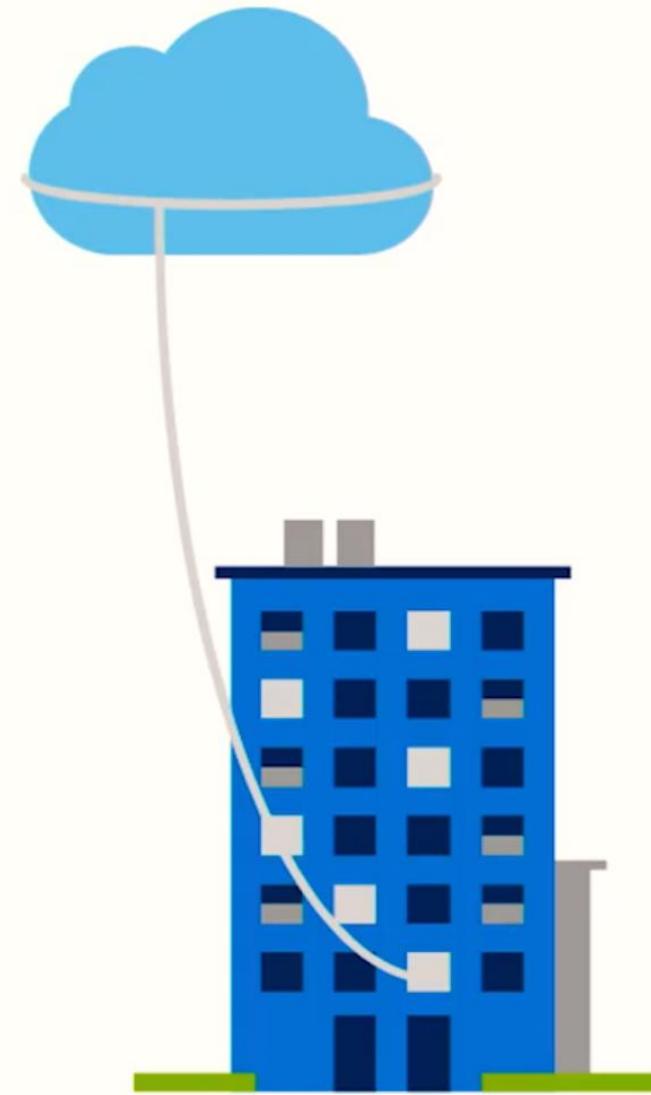
Public cloud



- Owned by cloud services or *hosting* provider.
- Provides resources and services to multiple organizations and users.
- Accessed via secure network connection (typically over the internet).

Private cloud

- Owned and operated by the organization that uses cloud resources.
- Organizations create a cloud environment in their datacenter.
- Self-service access to compute resources provided to users within the organization.
- Organizations responsible for operating the services they provide.



Hybrid cloud



Combines *Public* and *Private* clouds to allow applications to run in the most appropriate location.

Cloud model comparison

Public cloud:

- No capital expenditures to scale up.
- Applications can be quickly provisioned and deprovisioned.
- Organizations pay only for what they use.

Private cloud:

- Organizations have complete control over resources.
- Organizations have complete control over security.

Hybrid cloud:

- Most flexibility.
- Organizations determine where to run their applications.
- Organizations control security, compliance, or legal requirements.

Lesson 04: Types of cloud services



SaaS



Hosted applications/apps

PaaS



Development tools, database management, business analytics



Operating systems



Servers and storage



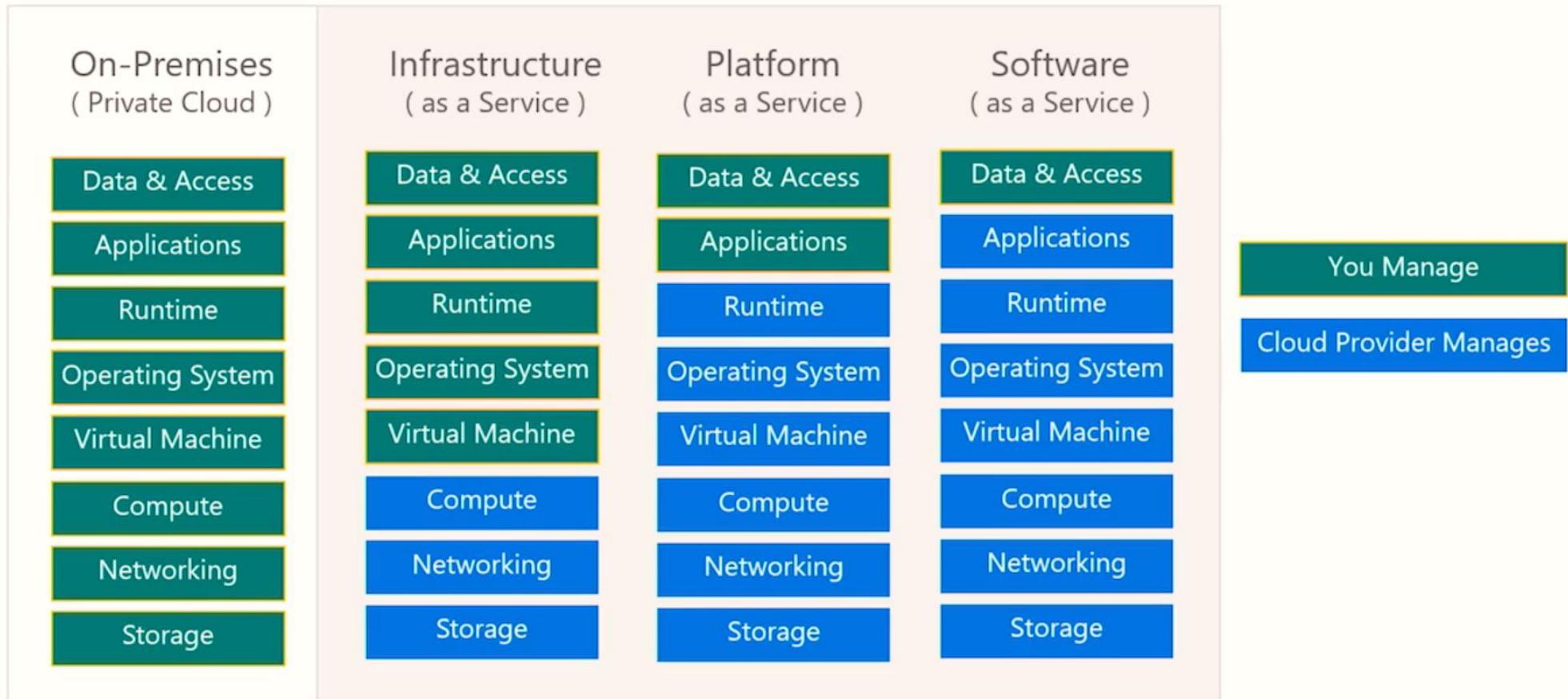
Networking firewalls/Security



Datacenter physical plant/building

IaaS

Shared responsibility model



Cloud service comparison

IaaS

- The most flexible cloud service.
- You configure and manage the hardware for your application.

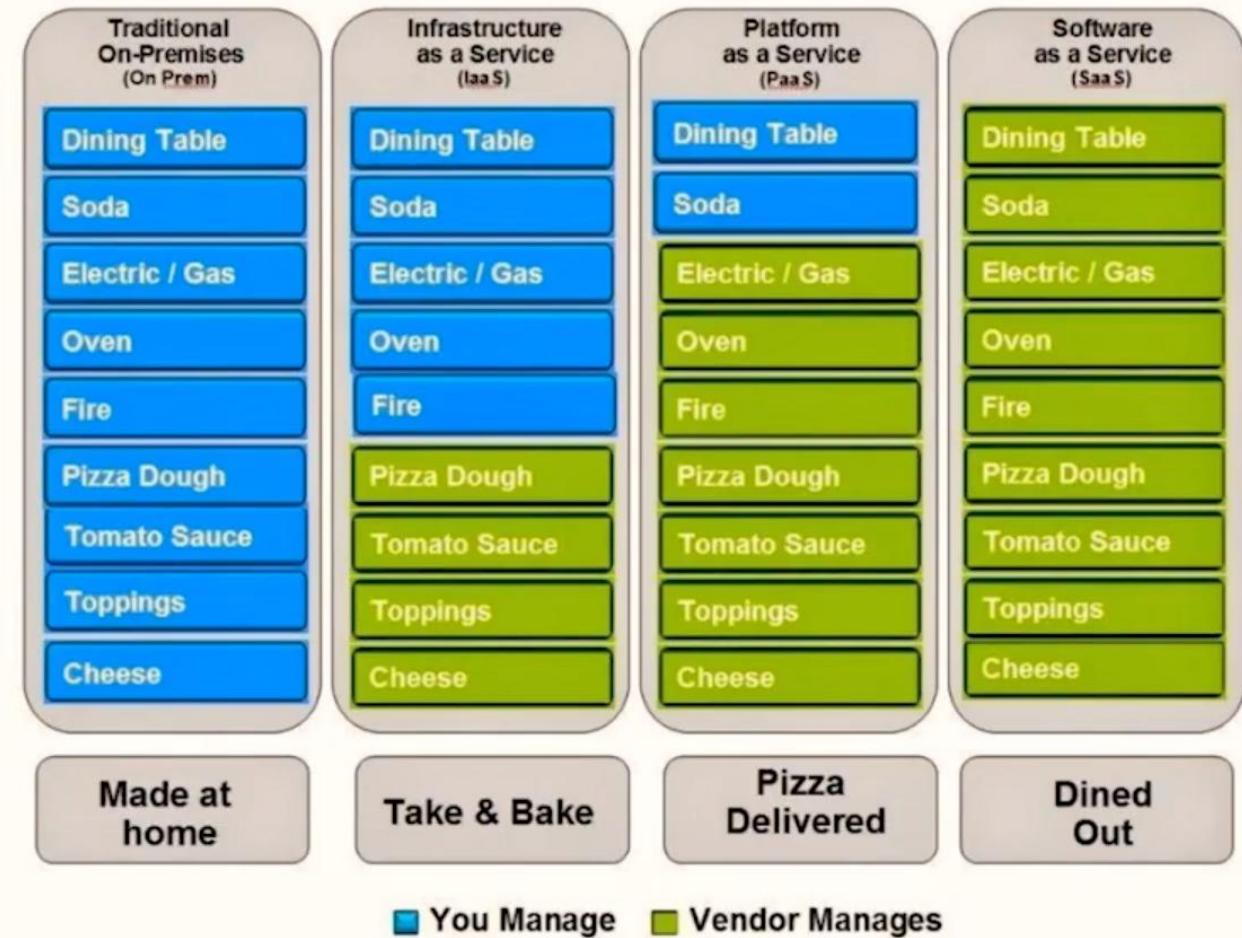
PaaS

- Focus on application development.
- Platform management is handled by the cloud provider.

SaaS

- Pay-as-you-go pricing model.
- Users pay for the software they use on a subscription model.

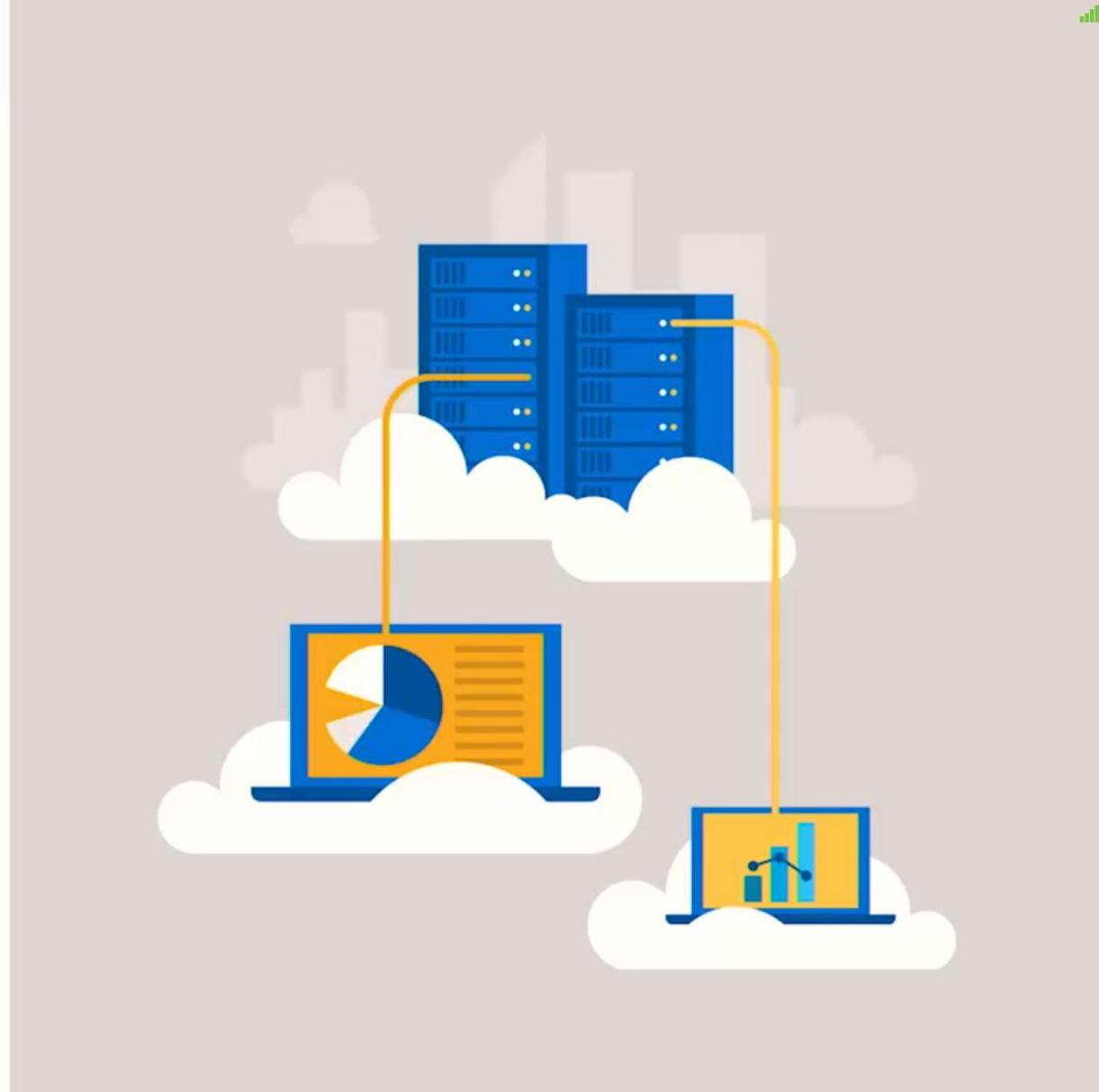
Think of it as
“Pizza as a
Service”



Azure Fundamentals

Module 02:

Core Azure services





Module 2 – Learning objectives

- Understand and describe core Azure architectural components.
- Understand and describe core Azure services and products.
- Understand and describe Azure solutions.
- Understand and describe Azure management tools.

Geographies

- Discrete markets that preserve data residency and compliance boundaries.
- Typically contain two or more regions.
- Allow customers with specific data-residency and compliance needs to keep their data and applications in close proximity.
- Categorized as Americas, Europe, Asia Pacific, Middle East and Africa.



Regions

- A region represents a collection of datacenters.
- Provides flexibility and scale.
- Preserves data residency.
- Select regions close to your users.
- Be aware of region deployment availability.
- There are global services that are region independent.



Region Pairs

- Each Azure region is paired with another region.
- Azure prefers at least 300 miles of separation between datacenters in a regional pair.
- Some services provide automatic replication to the paired region.
- In an outage, recovery of one region is prioritized out of every pair.
- Azure system updates are rolled out to paired regions sequentially (not at the same time).

Region	Region
North Central US	South Central US
East US	West US
West US 2	West Central US
US East 2	Central US
Canada Central	Canada East
North Europe	West Europe
UK West	UK South
Germany Central	Germany Northeast
South East Asia	East Asia
East China	North China
Japan East	Japan West
Australia Southeast	Australia East
India South	India Central
Brazil South (Primary)	South Central US

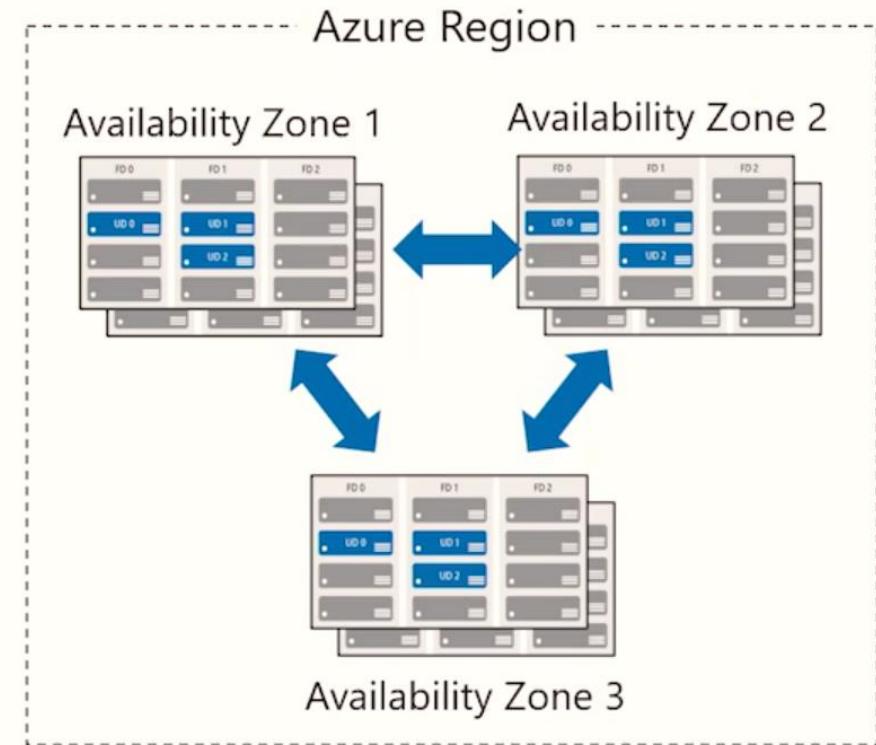


Dublin, Ireland



Availability zones

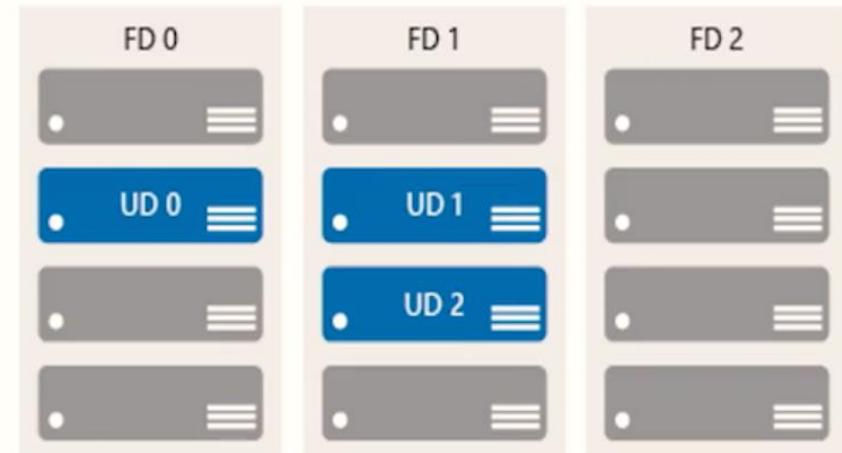
- Physically separate locations within an Azure region.
- Independent
 - Power
 - Cooling
 - Networking
- Isolation Boundary



Availability sets

Keep applications online during maintenance or hardware failure.

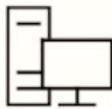
- **Update domains (UD):** Scheduled maintenance, performance or security updates are sequenced through update domains.
- **Fault domains (FD):** Provide a physical separation of workloads across different hardware in a datacenter.



Availability Options

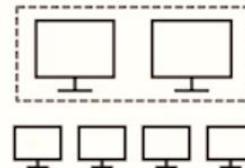
VM SLA

99.9% with Premium Storage



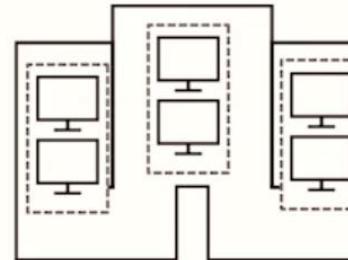
VM SLA

99.95%

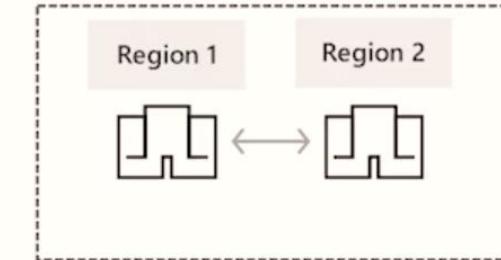


VM SLA

99.99%



MULTI-REGION DISASTER RECOVERY



SINGLE VM

Easier lift and shift

AVAILABILITY SETS

Protecting against failures
within datacenters

AVAILABILITY ZONES

Protection from entire
datacenter failures

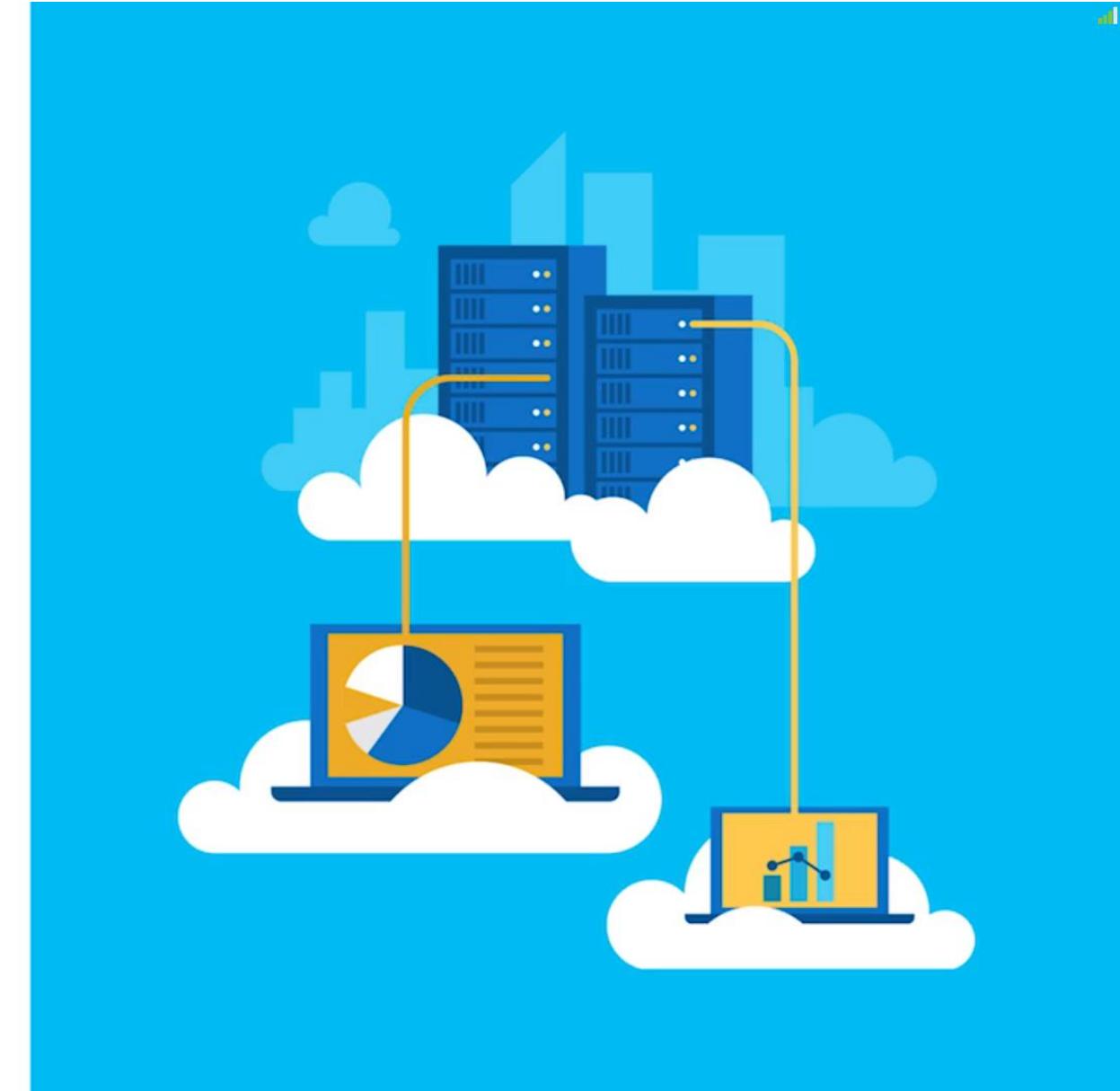
REGION PAIRS

Regional protection within
Data Residency Boundaries



Microsoft Azure Fundamentals

We will be back in 10
minutes!



Resource groups

- A collection of Azure Resources
 - Resources that share the same life cycle.
 - A single manageable unit.
- Every Azure resource must exist in one (and only one) resource group.
- Secure at the resource group (RBAC).
- Resource Group may contain resources from multiple regions.
- A resource in a Resource Group can access resources in other Resource Groups.
- If you delete a Resource Group, all the resources in the resource group are deleted.

Resource groups
(web + DB, VM, Storage) in one group

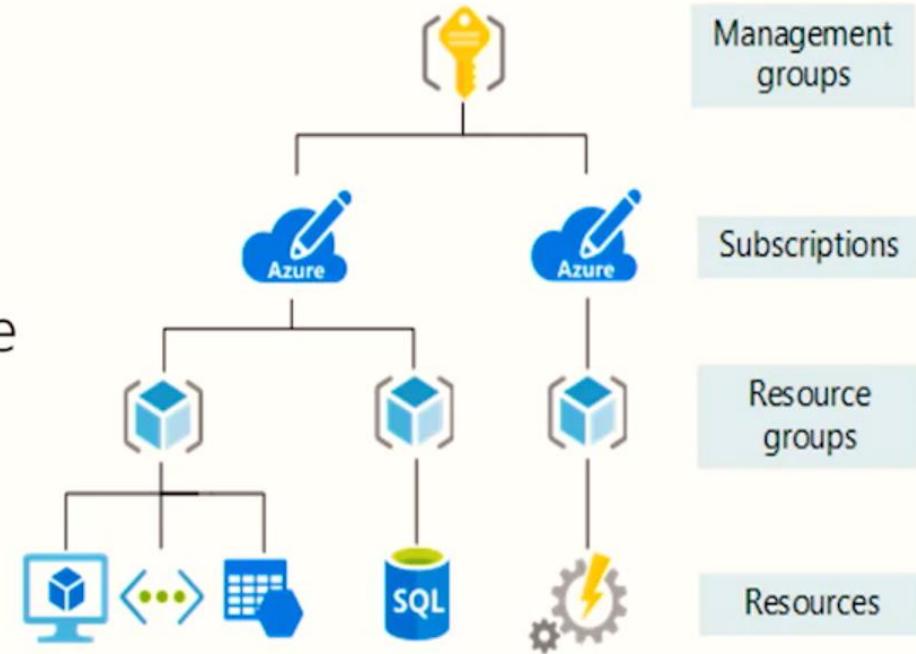


OR



Azure Hierarchy

- Provide a management layer that enables you to create, update, and delete resources in your Azure subscription.
- Create, configure, manage and delete resources and resource groups.
- Organize resources.
- Control access and resources.
- Automate using different tools and SDKs.



Microsoft Azure

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All services

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All resources

Templates

Azure Active Directory

Resource groups

Virtual networks

Network security groups

Load balancers

Network Watcher

Storage accounts

Virtual machines

Virtual machine scale sets

Recovery Services vaults

Azure services

Create a
resourceVirtual
machinesResource
groupsNetwork
Watcher

Data Box



All resources



Monitor



Advisor



Service Health



More services

Recent resources

Name	Type	Last Viewed
VMFun1	Virtual machine	1 h ago
az103Ready	Resource group	2 h ago
Windows Azure MSDN - Visual Studio Ultimate	Subscription	4 d ago
RBACTestVM	Virtual machine	4 d ago
AZ103keyvault	Key vault	4 d ago
Az103Vault	Recovery Services vault	4 wk ago
cloudhallazmet	Storage account	1 mo ago



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Databases

Analytics

Blockchain

AI + machine learning

Internet of things

Mixed reality

Featured



Virtual machines



App Services



Storage accounts



SQL databases



Azure Database for MySQL



Azure Cosmos DB



Kubernetes services



Function App



Virtual networks



Azure Active Directory



Resource groups



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Cost Management



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Core Cloud Services - Azure architecture and service guarantees



Core Cloud Services - Manage services with the Azure portal

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machines

Function App

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Management

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architecture and service guarantees

App Services

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Database forAzure
Cosmos DBKubernetes
services

Monitor



Advisor

Security
Center

Description

Create, build, deploy, and manage powerful web, mobile, and API apps for employees or customers using a single back-end. Build standards-based web apps and APIs using .NET, Java, Node.js, PHP, and Python.

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[Host a web application with Azure App serv...](#)
7 units · 1 hr 5 min

[Deploy and run a containerized web app wit...](#)
8 units · 46 min

[Scale an App Service web app to efficiently ...](#)
6 units · 46 min

Useful links

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<https://portal.azure.com>

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SQL databases



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Core Cloud Services services with the Az

Portal settings

Looking to switch directories or filter subscriptions?
[Click here](#)

General

Language & region

Configure directory level timeout

Sign me out when inactive

Never

Choose your default view

Home

Dashboard

Choose your default mode for the portal menu

Flyout



Docked

Choose a theme



High contrast theme

None

White

Black

 Enable pop-up notifications

Useful links

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VMFun1

Virtual machine

az103Ready

Resource group

Windows Azure MSDN - Visual Studio Ultimate

Subscription

RBACTestVM

Virtual machine

AZ103keyvault

Key vault

Searching all subscriptions. [Change](#)Azure
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Core Cloud Services - Azure architecture and service guarantees

9 units • 45 min

Azure provides a global network of secure datacenters you can deploy your services into. Learn about the physical architecture of Azure, how redundancy is provided, and what sort of service guarantees



Core Cloud Services - Manage services with the Azure portal

9 units • 1 hr 13 min

Tour the Azure portal features and services, and customize the portal.



Cloud Concepts - Principles of cloud computing

10 units • 1 hr 2 min

Explore the core concepts of cloud computing and how it can help your business.

Microsoft Azure



avai



All service



Overview

Resources

No results were found.

- All
- General
- Compute
- Networking
- Storage
- Web
- Mobile
- Containers
- Databases
- Analytics
- Blockchain
- AI + machine learning
- Internet of things
- Mixed reality

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Marketplace

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[Citrix ADC 12.0 \(High Availability\)](#)[Citrix ADC 12.1 \(High Availability\)](#)[Citrix ADC 13.0 \(High Availability\)](#)

Documentation

See all

[Tutorial - High availability for Windows VMs in Azure ...](#)[What are Azure Availability Zones? | Microsoft Docs](#)[Build schedule-based automated workflows - Azure Logic ...](#)[Memory Available Megabytes for Windows | Microsoft Docs](#)

Resource Groups

No results were found.



Kubernetes services



Function App



Cost Management



All services



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All services > New > Create a virtual machine

Create a virtual machine

Basics

Disks

Networking

Management

Advanced

Tags

Review + create

Create a virtual machine that runs Linux or Windows. Select an image from Azure marketplace or use your own customized image.

Complete the Basics tab then Review + create to provision a virtual machine with default parameters or review each tab for full customization.

Looking for classic VMs? [Create VM from Azure Marketplace](#)

Project details

Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription * ⓘ

Windows Azure MSDN - Visual Studio Ultimate

Resource group * ⓘ

[Create new](#)

Instance details

Virtual machine name * ⓘ

Region * ⓘ

(US) Central US

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Create a virtual machine

Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription * ⓘ

Windows Azure MSDN - Visual Studio Ultimate

Resource group * ⓘ

AzFUN

[Create new](#)

Instance details

Virtual machine name * ⓘ

FunVM2

Region * ⓘ

(US) West US 2

Availability options ⓘ

No infrastructure redundancy required

Image * ⓘ

No infrastructure redundancy required

Availability zone

Virtual machine scale set (preview)

Availability set

1 vcpu, 3.5 GiB memory (\$41.61/month)

[Review + create](#)

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Create a virtual machine

Instance details

Virtual machine name *

Region *

Availability options

Availability set *

Image *

Azure Spot instance

Size *

Administrator account

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Windows Server 2016 Datacenter

Ubuntu Server 18.04 LTS

Red Hat Enterprise Linux 7.7

SUSE Enterprise Linux 15 SP1

CentOS-based 7.7

Debian 9 "Stretch" with backports kernel

Oracle Linux 7.7

Ubuntu Server 16.04 LTS

Windows Server 2016 Datacenter

[Browse all public and private images](#) Yes No**Standard DS1 v2**

1 vcpu, 3.5 GiB memory (\$46.43/month)

[Change size](#)



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Select a VM size

Browse available virtual machine sizes and their features

Search by VM size...

Clear all filters

Documentation

Size : Small (0-6) ×Generation : 2 selected ×Family : General purpose ×Premium disk : Supported ×+ Add filterShowing 11 of 234
VM sizes.Subscription: Windows Azure MSDN - Visual
Studio UltimateRegion: South
Central USCurrent size:
Standard_DS1_v2Image: Windows Server 2016
Datacenter

VM Size ↑↓	Offering ↑↓	Family ↑↓	vCPUs ↑↓	RAM (GiB) ↑↓	Data disks ↑↓	Max IOPS ↑↓	Temporary stora...↑↓	Premium disk su...↑↓
B1ls	Standard	General purpose	1	0.5	2	160	4	Yes
B1ms	Standard	General purpose	1	2	2	640	4	Yes
B1s	Standard	General purpose	1	1	2	320	4	Yes
B2ms	Standard	General purpose	2	8	4	1920	16	Yes
B2s	Standard	General purpose	2	4	4	1280	8	Yes
B4ms	Standard	General purpose	4	16	8	2880	32	Yes
D2s_v3	Standard	General purpose	2	8	4	3200	16	Yes
D4s_v3	Standard	General purpose	4	16	8	6400	32	Yes

Prices presented are estimates in your local currency that include only Azure infrastructure costs and any discounts for the subscription and location. The prices don't include any applicable software costs. Final charges will appear in your local currency in cost analysis and billing views. View Azure pricing calculator.

Select

[All services >](#) [New >](#) Create a virtual machine

Create a resource

[Home](#)[Dashboard](#)[All services](#)

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Create a virtual machine

Azure Spot instance

 Yes No

Size *

Standard D2s v3

2 vcpus, 8 GiB memory (\$80.30/month)

[Change size](#)

Administrator account

Username *

mhester



Password *



Confirm password *



Password and confirm password must match.

Inbound port rules

Select which virtual machine network ports are accessible from the public internet. You can specify more limited or granular network access on the Networking tab.

Public inbound ports *

 None Allow selected ports

Select inbound ports *

000-1700

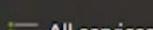
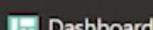
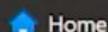
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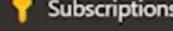
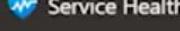
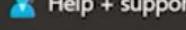
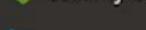
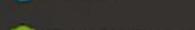
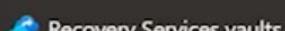
Next : Disks >



Create a resource



FAVORITES



Create a virtual machine

Inbound port rules

Select which virtual machine network ports are accessible from the public internet. You can specify more limited or granular network access on the Networking tab.

Public inbound ports *

None Allow selected ports

Select inbound ports *

RDP (3389)



This will allow all IP addresses to access your virtual machine. This is only recommended for testing. Use the Advanced controls in the Networking tab to create rules to limit inbound traffic to known IP addresses.

Save money

Save up to 49% with a license you already own using Azure Hybrid Benefit. [Learn more](#)

Already have a Windows Server license? * Yes No



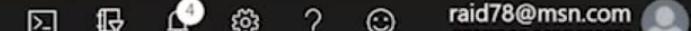
[Review + create](#)

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All services > New > Create a virtual machine

Create a virtual machine

Basics Disks Networking Management Advanced Tags Review + create

Azure VMs have one operating system disk and a temporary disk for short-term storage. You can attach additional data disks. The size of the VM determines the type of storage you can use and the number of data disks allowed. [Learn more](#)

Disk options

OS disk type *

Standard SSD

Enable Ultra Disk compatibility. ☺

Yes No

Ultra Disk compatibility is not available for this VM size and location.

Data disks

You can add and configure additional data disks for your virtual machine or attach existing disks. This VM also comes with a temporary disk.

LUN	Name	Size (GiB)	Disk type	Host caching
-----	------	------------	-----------	--------------

Create and attach a new disk Attach an existing disk

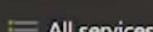
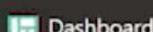
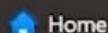
Review + create

[< Previous](#)

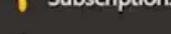
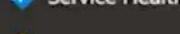
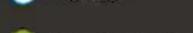
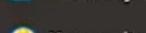
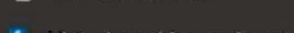
Next : Networking >



Create a resource



FAVORITES



Create a virtual machine

Data disks

You can add and configure additional data disks for your virtual machine or attach existing disks. This VM also comes with a temporary disk.

LUN	Name	Size (GiB)	Disk type	Host caching
-----	------	------------	-----------	--------------

[Create and attach a new disk](#)[Attach an existing disk](#)

Advanced

Use managed disks (i) No YesUse ephemeral OS disk (i) No Yes

The selected image is too large for the OS cache of the selected instance.

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Define network connectivity for your virtual machine by configuring network interface card (NIC) settings. You can control ports, inbound and outbound connectivity with security group rules, or place behind an existing load balancing solution.

[Learn more](#)

Network interface

When creating a virtual machine, a network interface will be created for you.

Virtual network *

(new) AzFUNvnet913

[Create new](#)

Subnet *

(new) default (10.0.1.0/24)

Public IP

(new) FunVM2-ip

[Create new](#)

NIC network security group

 None Basic Advanced

Public inbound ports *

 None Allow selected ports[Review + create](#)

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Create a virtual machine

Configure monitoring and management options for your VM.

Azure Security Center

Azure Security Center provides unified security management and advanced threat protection across hybrid cloud workloads.

[Learn more](#)

✓ Your subscription is protected by Azure Security Center basic plan.

Monitoring

Boot diagnostics (i) On Off

OS guest diagnostics (i) On Off ↳

Diagnostics storage account * (i) ↳

[Create new](#)

Identity

System assigned managed identity (i) On Off

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OS guest diagnostics



On



Off

Diagnostics storage account

(new) azfundiag640

[Create new](#)

Identity

System assigned managed identity



On



Off

Auto-shutdown

Enable auto-shutdown



On



Off



Shutdown time

7:00:00 PM

Time zone

(UTC) Coordinated Universal Time



Notification before shutdown



On



Off

Email

raid78@msn.com



Backup

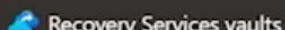
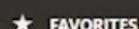
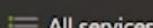
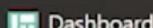
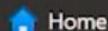
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Create a resource



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Add additional configuration, agents, scripts or applications via virtual machine extensions or cloud-init.

Extensions

Extensions provide post-deployment configuration and automation.

Extensions ⓘ

Select an extension to install



Cloud init

Cloud init is a widely used approach to customize a Linux VM as it boots for the first time. You can use cloud-init to install packages and write files or to configure users and security. [Learn more](#)

The selected image does not support cloud init.

Host

Azure Dedicated Hosts allow you to provision and manage a physical server within our data centers that are dedicated to your Azure subscription. A dedicated host gives you assurance that only VMs from your subscription are on the host, flexibility to

[Review + create](#)

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Advanced Tags Review + create

Install applications via virtual machine extensions or cloud-init.

Install automation.

Select an extension to install

Install a Linux VM as it boots for the first time. You can use cloud-init to install security. [Learn more](#)

Manage a physical server within our data centers that are dedicated to your usage that only VMs from your subscription are on the host, flexibility to

Next : Tags >

New resource

 Control-M Agent
BMC Software, Inc. Custom Script Extension
Microsoft Corp. PowerShell Desired State Configuration
Microsoft Corp. ESET File Security
ESET Rapid7 Insight Agent
Rapid7 Inc. Kaspersky Hybrid Cloud Security Agent
Kaspersky Lab Network Watcher Agent for Windows
Microsoft Corp.



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Tags are name/value pairs that enable you to categorize resources and view consolidated billing by applying the same tag to multiple resources and resource groups. [Learn more about tags](#)

Note that if you create tags and then change resource settings on other tabs, your tags will be automatically updated.

Name ⓘ	Value ⓘ	Resource
<input type="text"/>	:	<input type="text"/> 11 selected

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Validation passed

Basics Disks Networking Management Advanced Tags Review + create

PRODUCT DETAILS

Standard D2s v3

Subscription credits apply ⓘ

by Microsoft

0.1100 USD/hr

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Pricing for other VM sizes

TERMS

By clicking "Create", I (a) agree to the legal terms and privacy statement(s) associated with the Marketplace offering(s) listed above; (b) authorize Microsoft to bill my current payment method for the fees associated with the offering(s), with the same billing frequency as my Azure subscription; and (c) agree that Microsoft may share my contact, usage and transactional information with the provider(s) of the offering(s) for support, billing and other transactional activities. Microsoft does not provide rights for third-party offerings. See the [Azure Marketplace Terms](#) for additional details.



You have set RDP port(s) open to the internet. This is only recommended for testing. If you want to change this setting, go back to Basics tab.

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[Download a template for automation](#)

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All services > New > Create a virtual machine > Template

Template

Download Add to library Deploy

Automate deploying resources with Azure Resource Manager templates in a single, coordinated operation. Define resources and configurable input parameters and deploy with script or code. [Learn more about template deployment.](#)

 Include parameters

Template Parameters Scripts

> Parameters (24)

> Variables (3)

> Resources (7)

[parameters('networkInterfaceN...]

[parameters('networkSecurityGr...]

[parameters('virtualNetworkNa...]

[parameters('publicIpAddressNa...]

[parameters('virtualMachineNa...]

[parameters('diagnosticsStorage...]

[parameters('availabilitySetNam...]

```
1  {
2    "$schema": "http://schema.management.azure.com/schemas/2015-01-01/
3    deploymentTemplate.json#",
4    "contentVersion": "1.0.0.0",
5    "parameters": {
6      "location": {
7        "type": "string"
8      },
9      "networkInterfaceName": {
10        "type": "string"
11      },
12      "networkSecurityGroupName": {
13        "type": "string"
14      },
15      "networkSecurityGroupRules": {
16        "type": "array"
```



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 Include parameters [?](#)Template Parameters Scripts

```
1  {
2      "$schema": "https://schema.management.azure.com/schemas/2015-01-01/deploymentParameters.json#",
3      "contentVersion": "1.0.0.0",
4      "parameters": {
5          "location": {
6              "value": "southcentralus"
7          },
8          "networkInterfaceName": {
9              "value": "funvm2839"
10         },
11         "networkSecurityGroupName": {
12             "value": "FunVM2-nsg"
13         },
14         "networkSecurityGroupRules": {
15             "value": [
16                 {
17                     "name": "Allow-HTTP",
18                     "priority": 100,
19                     "access": "Allow",
20                     "ruleType": "HTTP"
21                 }
22             ]
23         }
24     }
25 }
```



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Template

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Automate deploying resources with Azure Resource Manager templates in a single, coordinated operation. Define resources and configurable input parameters and deploy with script or code. [Learn more about template deployment.](#)

 Include parameters [?](#)

Template

Parameters

Scripts

```
67     "osDiskType": {  
68         "value": "Premium_LRS"  
69     },  
70     "virtualMachineSize": {  
71         "value": "Standard_D2s_v3"  
72     },  
73     "adminUsername": {  
74         "value": "mhester"  
75     },  
76     "adminPassword": {  
77         "value": null  
78     },  
79     "diagnosticsStorageAccountName": {  
80         "value": "azfunddiag640"  
81     },  
82 }
```

[←](#) [→](#) [⟳](#)<https://portal.azure.com/#blade/HubsExtension/DeploymentDetailsBlade/overview/id/%2Fsubscriptions%2F5abe05c6-b60d...>**Microsoft Azure**

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All services > CreateVm-MicrosoftWindowsServer.WindowsServer

**CreateVm-MicrosoftWindowsServer.WindowsServer**

Deployment

Overview

Search (Ctrl+ /)

[Delete](#) [Cancel](#) [Redeploy](#) [Refresh](#)[Overview](#)[Inputs](#)[Outputs](#)[Template](#)

Your deployment is complete



Deployment name: CreateVm-MicrosoftWindowsServer.WindowsS...

Subscription: Windows Azure MSDN - Visual Studio Ultimate

Resource group: AzFUN

Correlation ID: 26039760-0b8b-4645-aa79-aea82064

[Deployment details \(Download\)](#)[Next steps](#)[Setup auto-shutdown](#) Recommended[Monitor VM health, performance and network dependencies](#) Recommended[Run a script inside the virtual machine](#) Recommended[Go to resource](#)

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FunVM2

Virtual machine

[Search \(Ctrl+ /\)](#)[Connect](#) [Start](#) [Restart](#) [Stop](#) [Capture](#) [Delete](#) [Refresh](#)Resource group ([change](#))

AzFUN

Azure Spot

N/A

Status

Running

Public IP address

13.84.182.112

Location

South Central US

Private IP address

10.0.1.4

Subscription ([change](#))

Windows Azure MSDN - Visual Studio Ultimate

Public IP address (IPv6)

-

Subscription ID

Sabe05c6-b60d-45df-9817-2254e05ed4a7

Private IP address (IPv6)

-

Computer name

(not available)

Virtual network/subnet

AzFUNvnet913/default

Operating system

Windows

DNS name

Configure

Size

Standard D2s v3 (2 vcpus, 8 GiB memory)

Scale Set

N/A

Tags ([change](#))[Click here to add tags](#)[Show data for last](#)

[Back](#)[Forward](#)<https://portal.azure.com/#@MOD830600.onmicrosoft.com/resource/subscriptions/5abe05c6-b60d-45df-9817-2254e05ed4a...>raid78@msn.com
CONTOSO MOD830600**Microsoft Azure**[Search resources, services, and docs \(G/+\)](#)[All services > CreateVm-MicrosoftWindowsServer.WindowsServer](#)**FunVM2**
Virtual machine[Search \(Ctrl+ /\)](#)[Connect](#)[Start](#)[Restart](#)[Stop](#)[Capture](#)[Delete](#)[Refresh](#)

Public IP address (IPv6)

Private IP address (IPv6)

Virtual network/subnet
AzFUNvnet913/defaultDNS name
[Configure](#)Scale Set
N/A[Overview](#)[Activity log](#)[Access control \(IAM\)](#)[Tags](#)[Diagnose and solve problems](#)**Settings**[Networking](#)[Connect](#)[Disks](#)[Size](#)[Security](#)[Extensions](#)[Continuous delivery](#)[Availability + scaling](#)[RDP](#)[dio Ultimate](#)[SSH](#)[5ed4a7](#)[Bastion](#)

(not available)

Operating system
Windows

Size

Standard D2s v3 (2 vcpus, 8 GiB memory)

Tags (change)

[Click here to add tags](#)

Show data for last:

1 hour

6 hours

12 hours

1 day

7 days

30 days

CPU (average)

100%

80%

Network (total)

100B

80B



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FunVM2 - Size

Virtual machine



Search (Ctrl+ /)



Overview



Activity log



Access control (IAM)



Tags



Diagnose and solve problems



Settings



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Connect



Disks



Size



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Continuous delivery



Availability + scaling



If the virtual machine is currently running, changing its size will cause it to be restarted. Stopping the virtual machine may reveal additional sizes.



Search by VM size...

Clear all filters

Documentation

Size : Small (0-6)

Generation : 2 selected

Family : General purpose

Premium disk : Supported

Add filter

Showing 11 of 109
VM sizes.Subscription: Windows Azure MSDN - Visual
Studio UltimateRegion: South
Central USCurrent size:
Standard_D2s_v3

VM Size ↑	Offering ↑↓	Family ↑↓	vCPUs ↑↓	RAM (GiB) ↑↓	Data disks ↑↓	Max IOPS ↑↓
B1ls	Standard	General purpose	1	0.5	2	160
B1ms	Standard	General purpose	1	2	2	640
B1s	Standard	General purpose	1	1	2	320
B2ms	Standard	General purpose	2	8	4	1920
B2s	Standard	General purpose	2	4	4	1280
R4mc	Standard	General purpose	4	16	8	2880

Resize

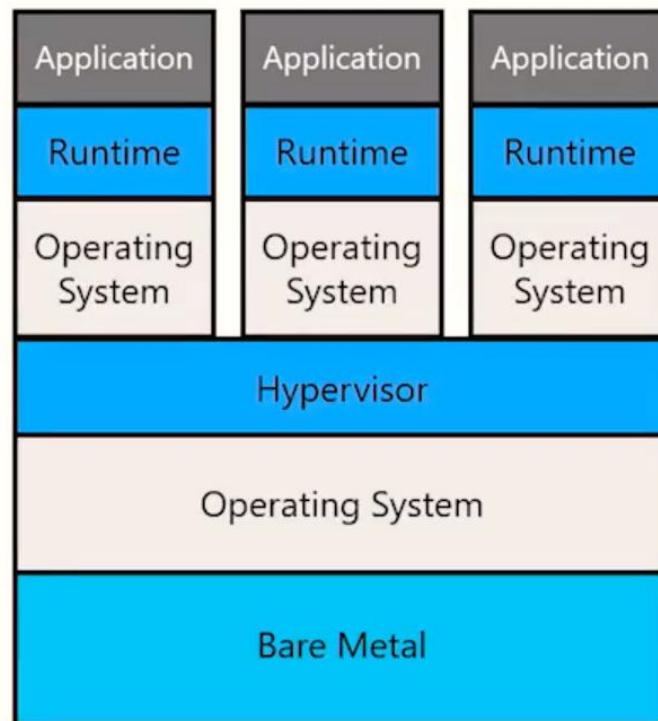
Prices presented are estimates in your local currency that include only Azure infrastructure costs and any discounts for the subscription and location. The prices don't include any applicable software costs. Final charges will appear in your local currency in cost analysis and billing views. [View Azure pricing calculator](#).

Virtual Machine Services

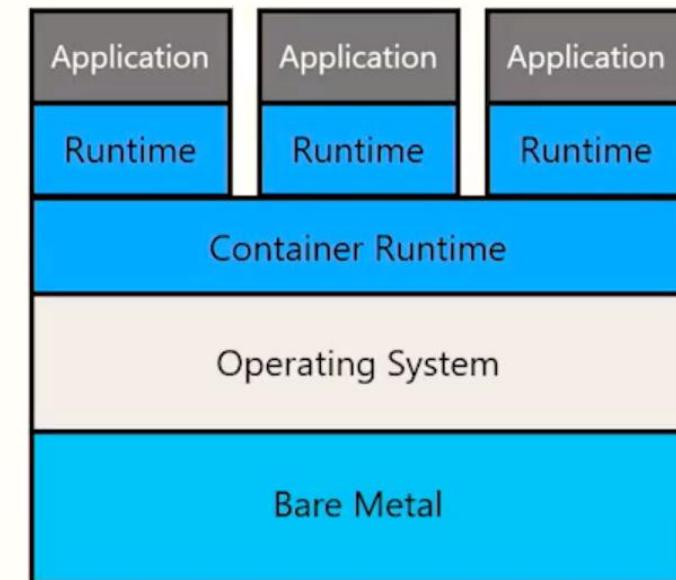
- Azure VMs
- VM scale sets
- App services
- Functions



Containers vs Virtual Machines



Virtual Machines



Containers



Container Services

- Azure Container Instances: A PaaS offering that allows you to upload your containers, which it then will run for you.
- Azure Kubernetes Service: A container orchestrator service for managing large numbers of containers

Azure Network Services

- Azure Virtual Network
- Azure Load Balancer
- VPN Gateway
- Azure Application Gateway
- Content Delivery Network
- VNet Peering

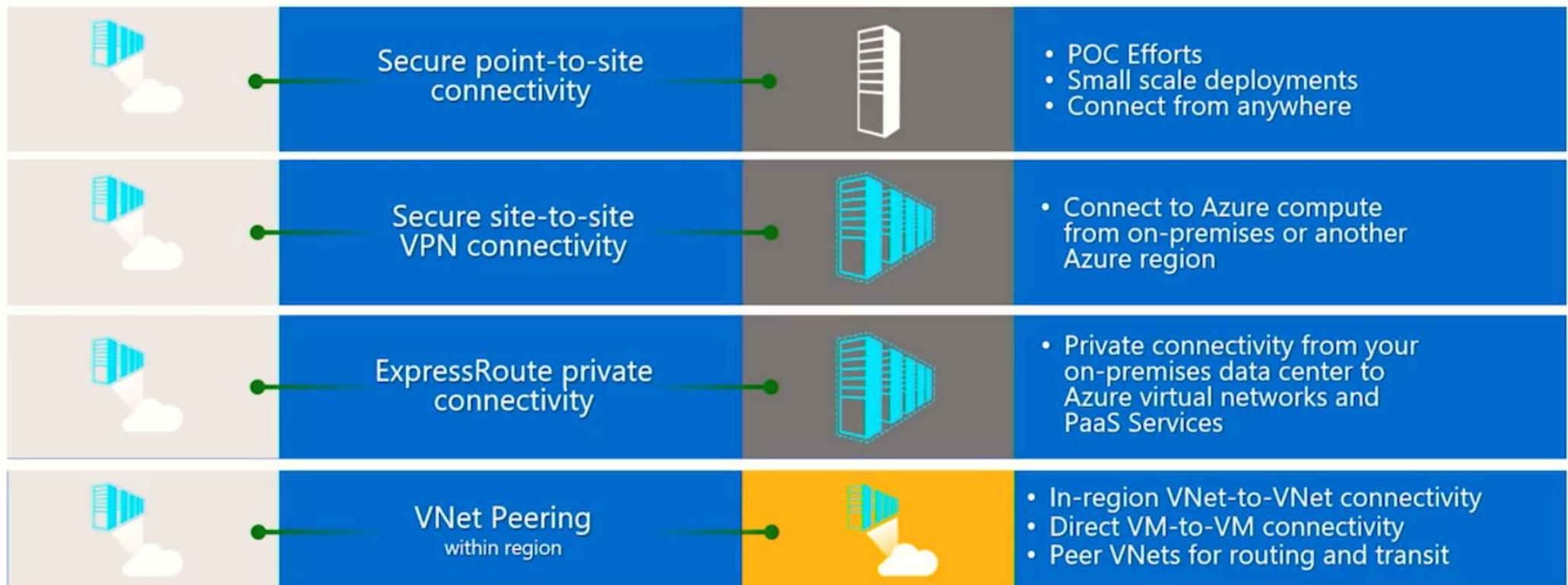


Connectivity Options to Azure

Compute Storage


Networking


Management

Azure data categories

	Schema	Data relationships	Examples
Structured data	Adheres to a schema, with the same data fields or properties.	Storable in relational database tables, with rows and columns.	Sensor data and financial data.
Semi-structured data	Has an ad hoc schema with less organized fields and properties.	Non-relational or NoSQL data, not storable in tables, rows and column.	Books, blogs, JSON, HTML documents.
Unstructured data	Has no designated schema or data structure.	Non-relational or blob data, with no restrictions on the kinds of data blobs contain.	PDFs, JPGs, videos.

Azure storage services

IaaS

Disks

- Persistent disks for Azure IaaS VMs.
- Premium Storage.
- Disks option: SSD based, high IOPS, low latency.
- Lift and shift operations.

Files

- SMB and REST access.
- Access from anywhere.
- Secure access.

PaaS

Containers

- Unstructured data – text or binary.
- Block Blobs.
- Page Blobs.
- Append Blobs.

Tables

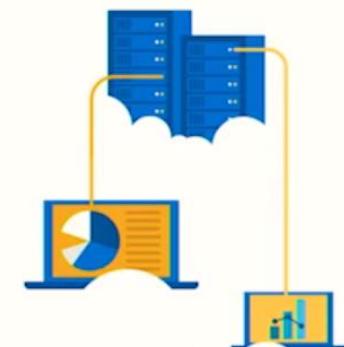
- NoSQL data store - structured data.
- Dynamic scaling based on load.
- Scales to petabytes of data.
- Fast key/value lookups.

Queues

- Store and retrieve messages.
- Highly scalable.
- Messages can be processed asynchronously.

Let's Take A Look:

Create a storage account



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FunVM2 - Size

Virtual machine

 Search (Ctrl+ /)

If the virtual machine is currently running, changing its size will cause it to be restarted. Stopping the virtual machine may reveal additional sizes.

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Review + create

Azure Storage is a Microsoft-managed service providing cloud storage that is highly available, secure, durable, scalable, and redundant. Azure Storage includes Azure Blobs (objects), Azure Data Lake Storage Gen2, Azure Files, Azure Queues, and Azure Tables. The cost of your storage account depends on the usage and the options you choose below.

[Learn more about Azure storage accounts](#)

Project details

Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription *

Windows Azure MSDN - Visual Studio Ultimate

Resource group *

[Create new](#)

Instance details

The default deployment model is Resource Manager, which supports the latest Azure features. You may choose to deploy using the classic deployment model instead. [Choose classic deployment model](#)

[Review + create](#)[< Previous](#)[Next : Networking >](#)



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Recovery Services vaults

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Create storage account

Resource group *

AzFUN

Create new

Instance details

The default deployment model is Resource Manager, which supports the latest Azure features. You may choose to deploy using the classic deployment model instead. [Choose classic deployment model](#)

Storage account name * ⓘ

funstorage1



Location *

(US) Central US



Performance ⓘ

 Standard Premium

Account kind ⓘ

StorageV2 (general purpose v2)



Replication ⓘ

Locally-redundant storage (LRS)



Access tier (default) ⓘ

 Cool Hot

Review + create

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Basics

Networking

Advanced

Tags

Review + create

Security

Secure transfer required

 Disabled Enabled

Azure Files

Large file shares

 Disabled Enabled

Data protection

Blob soft delete

 Disabled Enabled

Data Lake Storage Gen2

Hierarchical namespace

 Disabled Enabled

NFS v3

 Disabled Enabled

Sign up is currently required to utilize the NFS v3 feature on a per-subscription basis. [Learn more about NFS v3.](#)

Review + create

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https://portal.azure.com/#create/Microsoft.StorageAccount



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All services > Storage accounts > Create storage account

Create storage account

Basics Networking Advanced Tags Review + create

Tags are name/value pairs that enable you to categorize resources and view consolidated billing by applying the same tag to multiple resources and resource groups. [Learn more about tags](#)

Note that if you create tags and then change resource settings on other tabs, your tags will be automatically updated.

Name ⓘ	Value ⓘ	Resource
<input type="text"/>	:	<input type="text"/> Storage account

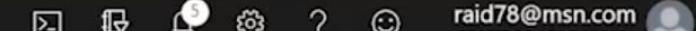
Review + create

< Previous

Next : Review + create >

[←](#) [→](#) [⟳](#)<https://portal.azure.com/#create/Microsoft.StorageAccount>[Star](#) [Star](#) [File](#) [Help](#) [?](#) [Smiley](#) [Gear](#)raid78@msn.com
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Create storage account

Validation passed

[Basics](#) [Networking](#) [Advanced](#) [Tags](#) [Review + create](#)

Basics

Subscription	Windows Azure MSDN - Visual Studio Ultimate
Resource group	AzFUN
Location	Central US
Storage account name	funstorage1
Deployment model	Resource manager
Account kind	StorageV2 (general purpose v2)
Replication	Locally-redundant storage (LRS)
Performance	Standard
Access tier (default)	Hot

Networking

Connectivity method	Public endpoint (all networks)
---------------------	--------------------------------

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Microsoft.StorageAccount

Deployment

Search (Ctrl+ /)

Delete

Cancel

Redeploy

Refresh

Overview

Inputs

Outputs

Template

Your deployment is complete

Deployment name: Microsoft.StorageAccount

Subscription: Windows Azure MSDN - Visual Studio Ultimate

Correlation ID: 3e927a44-2f00-4073-8c48-c1b3f0c0c4c5

Resource group: AzFUN

 Deployment details [\(Download\)](#)

Next steps

Go to resource

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All services > Microsoft.StorageAccount

> funstorage1

funstorage1

Storage account

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Move

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Tags

Diagnose and solve problems

Data transfer

Events

Storage Explorer (preview)

Settings

Access keys

Geo-replication

CORS

Configuration

Encryption

File

Tags (change)

Click here to add tags

Containers

Scalable, cost-effective storage for unstructured data

Learn more

File shares

Serverless SMB file shares

Learn more

Tables

Tabular data storage

Learn more

Queues

Effectively scale apps according to traffic



Learn more

Tools and SDKs

Storage Explorer (preview)

PowerShell

Azure CLI

.NET

Java

Python

Node.js

[←](#) [→](#) [⟳](#)<https://portal.azure.com/#@MOD830600.onmicrosoft.com/resource/subscriptions/5abe05c6-b60d-45df-9817-2254e05ed4a7/resourceGroups/funstorage1/providers/Microsoft.Storage/storageAccounts/funstorage1?#ResourceType=StorageAccount&ResourceName=funstorage1&ResourceGroup=funstorage1&Section=Properties>**Microsoft Azure**

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funstorage1 - Properties

Storage account

 Search (Ctrl+/
)

- [Shared access signature](#)
- [Firewalls and virtual networks](#)
- [Private endpoint connection...](#)
- [Advanced security](#)
- [Static website](#)
- [Properties](#)
- [Locks](#)
- [Export template](#)

Blob service

[Containers](#)[Custom domain](#)[Data Protection](#)[Azure CDN](#)[Add Azure Search](#)[Refresh](#)

Primary: Available

Locally-redundant storage (LRS)

Location

Central US

Account kind

StorageV2 (general purpose v2)

Subscription (change)

Windows Azure MSDN - Visual Studio Ultimate

Subscription ID

5abe05c6-b60d-45df-9817-2254e05ed4a7

Tags (change)

[Click here to add tags](#)

Provisioning state

Succeeded

Created

2/28/2020, 2:07:20 PM

Storage account resource ID

[/subscriptions/5abe05c6-b60d-45df-9817-2254e05ed4a7/resourceGroups/funstorage1/providers/Microsoft.Storage/storageAccounts/funstorage1](https://subscriptions/5abe05c6-b60d-45df-9817-2254e05ed4a7/resourceGroups/funstorage1/providers/Microsoft.Storage/storageAccounts/funstorage1)

Blob service

Blob service resource ID

[/subscriptions/5abe05c6-b60d-45df-9817-2254e05ed4a7/resourceGroups/funstorage1/providers/Microsoft.Storage/storageAccounts/funstorage1/blobServices](https://subscriptions/5abe05c6-b60d-45df-9817-2254e05ed4a7/resourceGroups/funstorage1/providers/Microsoft.Storage/storageAccounts/funstorage1/blobServices)

Primary Blob Service Endpoint

<https://funstorage1.blob.core.windows.net/>

File service

File service resource ID

[/subscriptions/5abe05c6-b60d-45df-9817-2254e05ed4a7/resourceGroups/funstorage1/providers/Microsoft.Storage/storageAccounts/funstorage1/fileServices](https://subscriptions/5abe05c6-b60d-45df-9817-2254e05ed4a7/resourceGroups/funstorage1/providers/Microsoft.Storage/storageAccounts/funstorage1/fileServices)

[←](#) [→](#) [⟳](#)<https://portal.azure.com/#@MOD830600.onmicrosoft.com/resource/subscriptions/5abe05c6-b60d-45df-9817-2254e05ed4a7/resourceGroups/funstorage1/providers/Microsoft.Storage/storageAccounts/funstorage1/properties>raid78@msn.com
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Microsoft Azure

Search resources, services, and docs (G+/)



All services > Microsoft.StorageAccount

> funstorage1 - Properties



+ Create a resource

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funstorage1 - Properties

Storage account

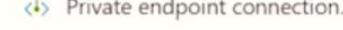
Search (Ctrl+ /)



Shared access signature



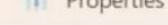
Firewalls and virtual networks



Private endpoint connection...



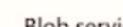
Advanced security



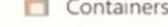
Static website



Properties



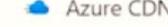
Locks



Export template



Containers



Custom domain



Data Protection



Azure CDN

Add Azure Search



Storage account resource ID

[/subscriptions/5abe05c6-b60d-45df-9817-2254e05ed4a7/resourceGroups/funstorage1/providers/Microsoft.Storage/storageAccounts/funstorage1](https://subscriptions/5abe05c6-b60d-45df-9817-2254e05ed4a7/resourceGroups/funstorage1/providers/Microsoft.Storage/storageAccounts/funstorage1)

Blob service

Blob service resource ID

[/subscriptions/5abe05c6-b60d-45df-9817-2254e05ed4a7/resourceGroups/funstorage1/providers/Microsoft.Storage/storageAccounts/funstorage1](https://subscriptions/5abe05c6-b60d-45df-9817-2254e05ed4a7/resourceGroups/funstorage1/providers/Microsoft.Storage/storageAccounts/funstorage1)

Primary Blob Service Endpoint

<https://funstorage1.blob.core.windows.net/>

File service

File service resource ID

[/subscriptions/5abe05c6-b60d-45df-9817-2254e05ed4a7/resourceGroups/funstorage1/providers/Microsoft.Storage/storageAccounts/funstorage1](https://subscriptions/5abe05c6-b60d-45df-9817-2254e05ed4a7/resourceGroups/funstorage1/providers/Microsoft.Storage/storageAccounts/funstorage1)

Primary File Service Endpoint

<https://funstorage1.file.core.windows.net/>

Queue service

Queue service resource ID

[/subscriptions/5abe05c6-b60d-45df-9817-2254e05ed4a7/resourceGroups/funstorage1/providers/Microsoft.Storage/storageAccounts/funstorage1](https://subscriptions/5abe05c6-b60d-45df-9817-2254e05ed4a7/resourceGroups/funstorage1/providers/Microsoft.Storage/storageAccounts/funstorage1)

Primary Queue Service Endpoint

<https://funstorage1.queue.core.windows.net/>

Table service

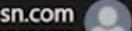
Table service resource ID

[/subscriptions/5abe05c6-b60d-45df-9817-2254e05ed4a7/resourceGroups/funstorage1/providers/Microsoft.Storage/storageAccounts/funstorage1](https://subscriptions/5abe05c6-b60d-45df-9817-2254e05ed4a7/resourceGroups/funstorage1/providers/Microsoft.Storage/storageAccounts/funstorage1)

Primary Table Service Endpoint

<https://funstorage1.table.core.windows.net/>

Data Lake Storage



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funstorage1 - Containers

Storage account

Search (Ctrl+ /)

Container

Change access level

Refresh

Delete

New container

Name *

hongkong

Public access level

Private

OK

Cancel



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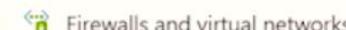
funstorage1 - Containers

Storage account

Search (Ctrl+ /)



Shared access signature



Firewalls and virtual networks



Private endpoint connection...



Advanced security



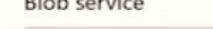
Static website



Properties

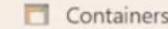


Locks

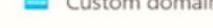


Export template

Blob service



Containers



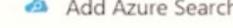
Custom domain



Data Protection



Azure CDN



Add Azure Search

+ Container Change access level Refresh Delete

New container

Name *

hongkong

Public access level

Private (no anonymous access)

Private (no anonymous access)

Blob (anonymous read access for blobs only)

Container (anonymous read access for containers and blobs)









































































































































































































































































































































































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Key vaults

hongkong

Container

Search (Ctrl+ /)

Overview

Access Control (IAM)

Settings

Access policy

Properties

Metadata

Upload

Change access level

Refresh



Authentication method: Access key (Switch to Azure AD User)

Location: hongkong

Search blobs by prefix (case-sensitive)

Name

Modified

No blobs found.

Upload

Files

Select a file

 Overwrite if files already exist

Advanced

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Upload blob

hongkong/

Files

"pano.jpg"

 Overwrite if files already exist

Advanced

Upload

 hongkong
Container

Search (Ctrl+/-)

Upload

Change access level

Refresh

Authentication method: Access key ([Switch to Azure AD User](#))

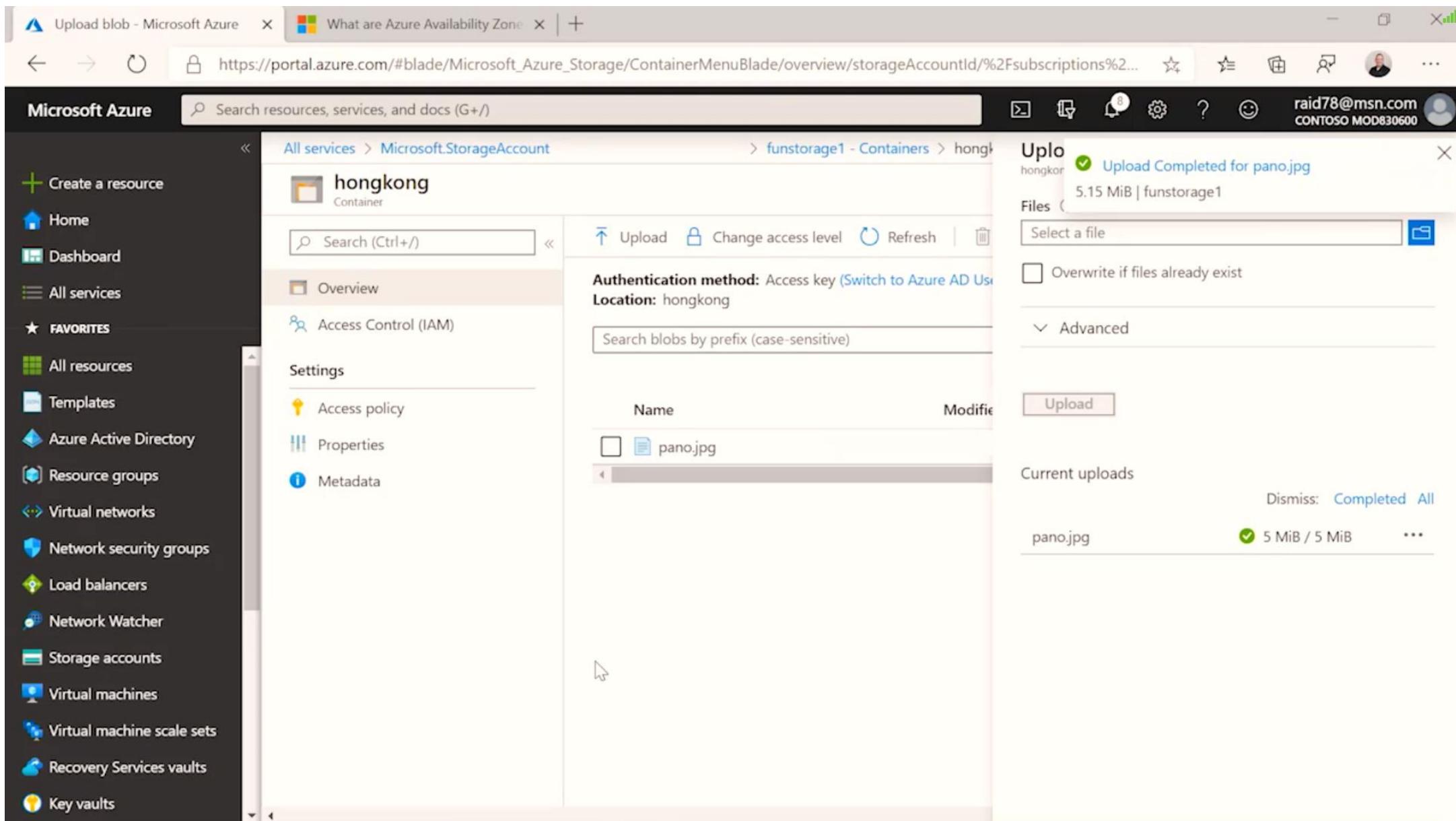
Location: hongkong

Search blobs by prefix (case-sensitive)

Name

Modified

No blobs found.



[←](#) [→](#) [⟳](#)https://portal.azure.com/#blade/Microsoft_Azure_Storage/ContainerMenuBlade/overview/storageAccountId/%2Fsubscriptions%2F...

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All services > Microsoft.StorageAccount

> funstorage1 - Containers > hongkong > pano.jpg

pano.jpg

Blob

[Save](#) [Discard](#) [Download](#) [Refresh](#) | [Delete](#) | [Change tier](#) [Acquire lease](#) [Break lease](#)[Overview](#) [Snapshots](#) [Edit](#) [Generate SAS](#)

Properties

URL <https://funstorage1.blob.core.windows.net/hongkong/pano.jpg> [Copy](#)

LAST MODIFIED

CREATION TIME

TYPE Block blob

SIZE 5.15 MiB

ACCESS TIER Hot (Inferred)

ACCESS TIER LAST MODIFIED N/A

SERVER ENCRYPTED true

ETAG 0x8D7BC8A58F1D2B6

CONTENT-TYPE image/jpeg

CONTENT-MD5 -

LEASE STATUS Unlocked

LEASE STATE Available

LEASE DURATION -

COPY STATUS -

COPY COMPLETION TIME -

[←](#) [→](#) [⟳](#)<https://funstorage1.blob.core.windows.net/hongkong/pano.jpg><https://funstorage1.blob.core.windows.net/hongkong/pano.jpg><https://funstorage1.blob.core.windows.net/hongkong/pano.jpg - Bing Search>[★](#) [≡](#) [👤](#) [👤](#) [...](#)

Search Microsoft and the web



Mentimeter



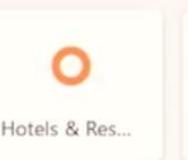
Facebook



American Airlin...



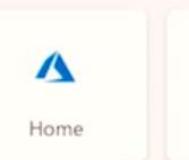
Microsoft Dyn...



Hotels & Res...



ESPN



Home

[My Feed](#)[Personalize](#)[Election 2020](#)[Top Stories](#)[Seattle / Tacoma](#)[Movies](#)

...

powered by Microsoft News

Azure database services



- Azure Cosmos DB is a globally-distributed database service that enables you to elastically and independently scale throughput and storage.



- Azure SQL Database is a relational database as a service (DaaS) based on the latest stable version of the Microsoft SQL Server database engine.



- Azure Database Migration is a fully-managed service designed to enable seamless migrations from multiple database sources to Azure data platforms with minimal downtime.

These are just a few of our database offerings.

Azure Marketplace

Service on Azure connects end users with solutions:

- Microsoft partners
- Independent software vendors (ISVs)
- Start-ups

Over 10,000 listings



Internet of Things



Microsoft IoT Central

- IoT SaaS
- Connect, monitor, and manage IoT assets



Azure IoT Hub

- Managed service
- Central message hub
- Bidirectional communication

Big data and analytics



Azure Synapse Analytics (Formerly Azure SQL Data Warehouse)

- Cloud-based Enterprise Data Warehouse
- Massively parallel processing (mpp)



Azure HDInsight

- Fully-managed, open-source analytics service
- Easier, faster, cost-effective



Azure Data Lake Analytics

- On-demand analytics job service

Artificial Intelligence



Azure Machine Learning service

- Develop, train, test, deploy, manage, and track machine learning models



Azure Machine Learning Studio

- Drag-and-drop visual workspace
- Build, Test and deploy machine learning solutions
- No need to write code

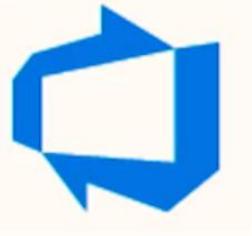
Serverless computing



- Azure Functions: Creates infrastructure based on an event.
- Azure Logic Apps is a cloud service that creates workflows when you need to integrate apps, data, systems, and services.
- Azure Event Grid is a fully-managed, intelligent event routing service



DevOps



Azure DevOps services

- Pipelines
- Git repositories
- Kanban boards
- Load testing



Azure DevTest Labs

- Quickly create environments
- Controlling costs

Azure App Service

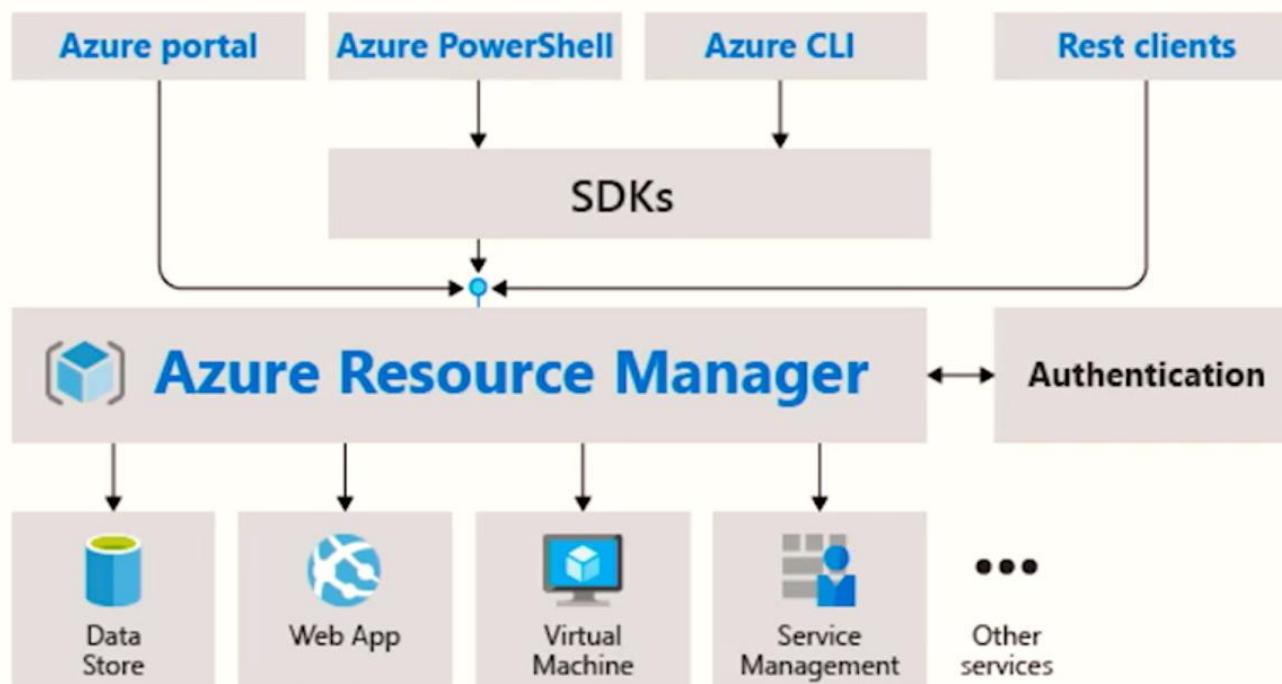
Quickly and easily build web and mobile apps for any platform or device.

- Multiple languages and frameworks.
- DevOps optimization.
- Global scale with high availability.
- Connections to SaaS platforms and on-premises data.
- Security and compliance.
- Application templates.
- Visual Studio integration.
- API and mobile features.
- Serverless code.

Lesson 05: Azure management tools



Azure management tools



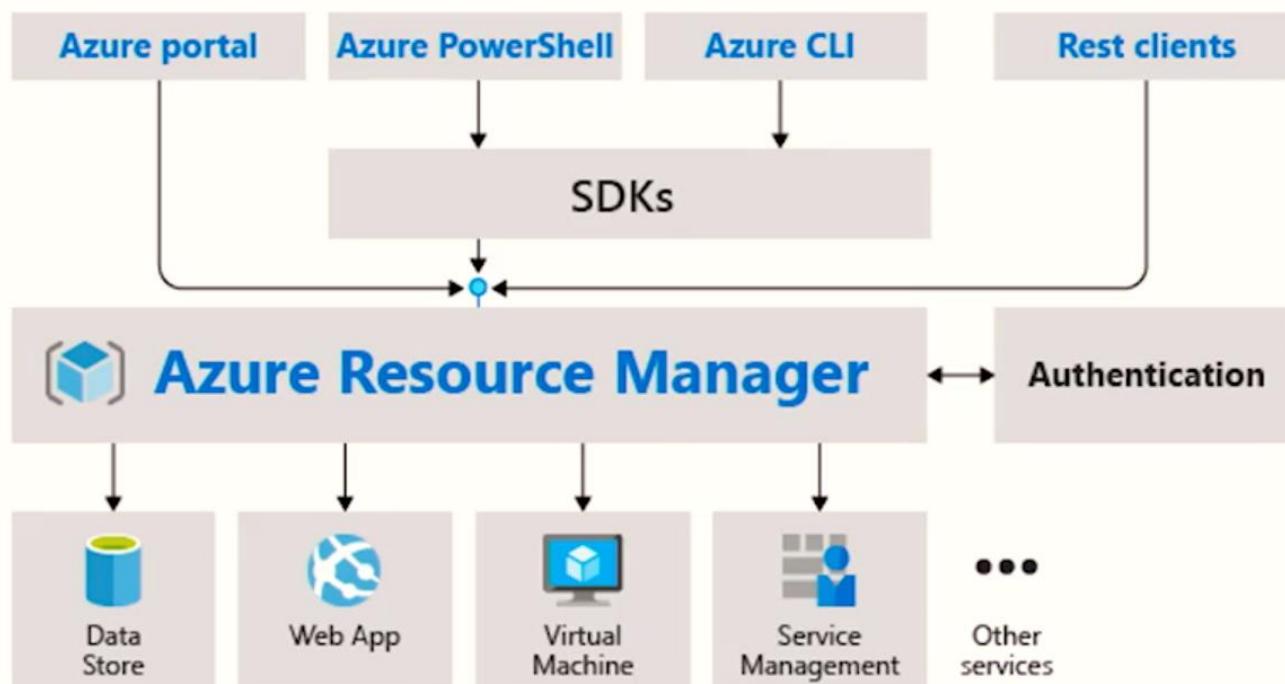
Azure Portal

- Web portal

Azure PowerShell

- Client-based shell
based on Windows (.NET), Linux, or
MacOS (.NET Core)

Azure management tools



Azure CLI

- CLI for Windows, Linux, and MacOS
- Bash on Windows Subsystem for Linux

Azure Cloud Shell

- Browser-based environment for PowerShell & Bash CLI

Azure App

- Mobile Application

<https://portal.azure.com/#home>

Search resources, services, and docs (G+)

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CONTOSO MOD830600**Microsoft Azure**[Create a resource](#)[Home](#)[Dashboard](#)[All services](#)**FAVORITES**[All resources](#)[Templates](#)[Azure Active Directory](#)[Resource groups](#)[Virtual networks](#)[Network security groups](#)[Load balancers](#)[Network Watcher](#)[Storage accounts](#)[Virtual machines](#)[Virtual machine scale sets](#)[Recovery Services vaults](#)**Azure services**[Create a resource](#)[Storage accounts](#)[Virtual machines](#)[Resource groups](#)[Network Watcher](#)[Data Box](#)[All resources](#)[Monitor](#)

Advisor

More services

Recent resources

Name	Type	Last Viewed
funstorage1	Storage account	17 min ago
FunVM2	Virtual machine	45 min ago
VMFun1	Virtual machine	3 h ago
az103Ready	Resource group	4 h ago
Windows Azure MSDN - Visual Studio Ultimate	Subscription	4 d ago
RBACTestVM	Virtual machine	4 d ago
AZ103keyvault	Key vault	4 d ago

← → ⟳🔒 https://portal.azure.com/#home**Microsoft Azure**

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accountsVirtual
machinesResource
groupsNetwork
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Data Box



All resources



Monitor

Bash

Requesting a Cloud Shell. **Succeeded.**

Connecting terminal...

raid78@Azure:~\$

I



https://portal.azure.com/#home



Microsoft Azure

Search resources, services, and docs (G+/-)

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machinesResource
groupsNetwork
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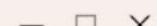


All resources



Monitor

Bash



Requesting a Cloud Shell. Succeeded.

Connecting terminal...

raid78@Azure:~\$ az



Welcome to the cool new Azure CLI!

Use `az --version` to display the current version.

Here are the base commands:

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```
Bash
raid78@Azure:~$ az group --help
```

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Subgroups:

`deployment` : Manage Azure Resource Manager deployments.
`lock` : Manage Azure resource group locks.

Commands:

`create` : Create a new resource group.
`delete` : Delete a resource group.
`exists` : Check if a resource group exists.
`export` : Captures a resource group as a template.
`list` : List resource groups.
`show` : Gets a resource group.
`update` : Update a resource group.
`wait` : Place the CLI in a waiting state until a condition of the resource group is met.

Please let us know how we are doing: <https://aka.ms/clihats>

raid78@Azure:~\$ az group create --help

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PowerShell

Requesting a Cloud Shell.**Succeeded.**

Connecting terminal...

MOTD: Modules installed with 'Install-Module' are persisted across sessions

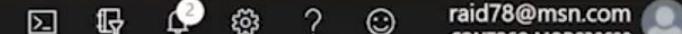
VERBOSE: Authenticating to Azure ...

VERBOSE: Building your Azure drive ...

Azure:/

PS Azure:\>

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PowerShell | ⚡ ? 🚧 { } 🔍

Azure:/

PS Azure:\> az group create --help

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Azure:/

PS Azure:\> `get-command`

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Azure:/

PS Azure:\> **get-help update-azvm**

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Microsoft Azure Fundamentals

Thanks for watching! We will continue tomorrow with our second session.
Please join us by using the unique session link provided in your registration email.

