

Cloud Terminology: AWS vs. Azure

This cheat sheet provides a comparison of the key services and cloud terms between Amazon Web Services (AWS) and Microsoft's Azure.

Comparison of AWS and Azure Cloud Services			
Area	AWS Service	Azure Service	Description
Compute			
Virtual servers	Elastic Compute Cloud (EC2) Instances	Azure Virtual Machines	Virtual servers allow users to deploy, manage and maintain OS and server software; instance types provide combinations of CPU/RAM; users pay for what they use with the flexibility to change sizes
	Amazon LightSail	Azure Virtual Machines and Images	Collection of virtual machine templates to select from when building out your virtual machine
Container instances	EC2 Container Service (ECS)	Azure Container Service	Provides clustering and an orchestration layer for controlling the deployment of containers onto hosts and the management of the containers within a cluster
	EC2 Container Registry	Azure Container Registry	Repository service for storing container images that is used to create different types of container deployments
Microservices / container orchestrators	Elastic Container Service for Kubernetes (EKS)	Azure Container Service (AKS)	Deploy orchestrated containerized applications with Kubernetes that simplify monitoring and cluster management through auto upgrades and a built-in operations console
Serverless	Lambda	<ul style="list-style-type: none"> Azure Functions Azure Event Grid 	Enables users to integrate systems and run backend processes in response to events or schedules without provisioning or managing servers
	Lambda @Edge	Functions on Azure IoT Edge	Runs functions at the edge (directly on IoT devices) even with intermittent cloud connectivity
Batch computing	AWS Batch	Azure Batch	Runs large-scale parallel and high-performance computing applications efficiently in the cloud
Scalability	AWS Auto Scaling	<ul style="list-style-type: none"> Virtual Machine Scale Sets Azure Auto Scaling 	Service allowing customers to automatically change the number of instances providing a particular compute workload; configure defined metric and thresholds that determine if the platform adds or removes instances
Management and Monitoring			
Cloud advisor	Trusted Advisor	Azure Advisor	Provides analysis of cloud resource configuration and security so subscribers can ensure they're making use of best practices and optimum configurations

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Deployment orchestration (DevOps)	CloudFormation	<ul style="list-style-type: none"> • Azure Resource Manager • VM extensions • Azure Automation 	Provides a way for users to automate manual, long-running, error-prone and frequently repeated IT tasks
Management and monitoring (DevOps)	CloudWatch	<ul style="list-style-type: none"> • Azure Portal • Azure Monitor 	A unified console that simplifies building, deploying and managing cloud resources
	AWS Usage and Billing Report	Azure Billing API	Services to help generate, monitor, forecast and share billing data for resource usage by time, organization or product resources
	AWS Management Console	Azure Portal	A unified management console that simplifies building, deploying and operating cloud resources
	AWS X-Ray	Azure Application Insights + Azure Monitor	An application performance management service for web developers on multiple platforms, this lets them monitor live web applications, detect performance anomalies and diagnose issues
Administration	AWS Application Discovery Service	Azure Log Analytics	Provides deeper insights into applications and cloud workloads by collecting, correlating and visualizing all machine data, such as event logs, network logs and performance data
	Amazon EC2 Systems Manager	Operations Management Suite	Enables continuous IT services and compliance through process automation and configuration management; helps automate complex and repetitive IT tasks
Security, Identity and Access			
Authentication and authorization	Identity and Access Management (IAM)	Azure Active Directory	Control access to services and resources while offering data security and protection; create and manage users and groups, and set user permissions to allow and deny access to resources
	AWS Organizations	Azure Subscription and Service Management + Azure RBAC	Security policy and role management for working with multiple accounts
	Multi-Factor Authentication	Multi-Factor Authentication	Service designed to safeguard access to data and applications by requiring multiple forms of identity validation prior to authentication users; provides a range of verification options.
Encryption	Server-side encryption with Amazon S3 Key Management Service	Azure Storage Service Encryption	Provides encryption for data at rest

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	<ul style="list-style-type: none"> • Key Management Service • CloudHSM 	Key Vault	Provides security and works with other services by providing a way to manage, create and control encryption keys stored in hardware security modules (HSMs)
Firewall	Web Application Firewall	Application Gateway Web Application Firewall	A firewall that protects web applications from common web exploits; users can define customizable web security rules
	Security groups + network access control lists	Network Security Groups	Provide basic firewall protection and ingress and egress control to virtual networks and/or specific cloud hosts
Security	Inspector	Security Center	An automated security assessment service that improves the security and compliance of applications, this automatically assesses applications, hosts and networks for vulnerabilities or deviations from best practices
	Certificate Manager	App Service Certificates	Service that allows customers to create, manage and consume certificates seamlessly in the cloud
	AWS Shield	Azure DDoS Protection Service	Provides cloud services with protection from distributed denial-of-services (DDoS) attacks
Directory services	AWS Directory Service + Windows Server Active Directory on AWS	Azure Active Directory Domain Services + Windows Server Active Directory on Azure IaaS	Identity and access management cloud solution that provides a robust set of capabilities to manage users and groups
	Cognito	Azure Active Directory B2C	A highly available, global, identity management service for consumer-facing applications that scales to hundreds of millions of identities
Compliance	AWS Artifact	Service Trust Platform	Provides access to audit reports, compliance guides and trust documents from across cloud services

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Networking			
Cloud Virtual Networking	Virtual Private Cloud (VPC)	Virtual Network	Provides an isolated, private environment in the cloud; users have control over their virtual networking environment, including selection of their own IP address range, creation of subnets, and configuration of route tables and network gateways
Cross-premises connectivity	AWS VPN Gateway	Azure VPN Gateway	Provides secure VPN connections between on-premises and cloud-based workloads over the internet
Domain name system management	Route 53	<ul style="list-style-type: none"> • Azure DNS • Traffic Manager 	Service to manage your DNS records and hosts' domain names, plus routes users to internet applications, connects user requests to data centers, manages traffic to apps, and improves app availability with automatic failover
Content delivery network	CloudFront	Azure Content Delivery Network	Global content delivery network that delivers audio, video, applications, images and other files
Dedicated network	Direct Connect	ExpressRoute	Establishes a dedicated, private network connection from a location to the cloud provider (not over the internet)
Load balancing	<ul style="list-style-type: none"> • Classic Load Balancer • Network Load Balancer • Application Load Balancer 	<ul style="list-style-type: none"> • Load Balancer • Application Gateway 	Automatically distributes incoming application traffic to add scale, handle failover and route to a collection of resources
Storage			
Object storage	Simple Storage Services (S3)	Azure Storage – Block Blob	Object storage service for use cases including cloud applications, content distribution, backup, archiving, disaster recovery and big data analytics; typically used for content logs and files
Virtual server disk infrastructure	Elastic Block Store (EBS)	Azure Storage – Page Blob	SSD storage optimized for I/O intensive read/write operations; typically used for VHDs or other random-write type data
Shared file storage	Elastic File System	Azure Files	Provides a simple interface to create and configure file systems and share common files
Backup	None	Azure Backup	Backup and archival solution allowing files and folders to be backed up and recovered from the cloud and provides off-site protection against data loss; consists of two components: the software service that orchestrates backup/ retrieval and the underlying backup storage infrastructure

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Bulk data transfer	AWS Import/Export Disk	Import/Export	Data transport solution that uses secure disks and appliances to transfer large amounts of data; also offers data protection during transit
	<ul style="list-style-type: none"> • AWS Import/Export Snowball • AWS Snowball Edge • AWS Snowmobile 	Azure Data Box	Petabyte- to exabyte-scale data transport solution that uses secure data storage devices to transfer large amounts of data into and out of the cloud, at lower cost than internet-based transfers
Marketplace			
Marketplace	AWS Marketplace	Azure Marketplace	Easy-to-deploy and automatically configured third-party applications, including single virtual machine or multiple virtual machine solutions
Developer Resources			
Messaging	Simple Queue Service (SQS)	Azure Queue Storage	Provides a managed message-queuing service for communicating between decoupled application components
Workflow	Simple Workflow Service (SWF)	Logic Apps	Serverless technology for connecting apps, data and devices anywhere (on-premises or in the cloud) for large ecosystems of SaaS and cloud-based connectors
API management	API Gateway	API Management	A turnkey solution for publishing APIs to external and internal consumers
	Elastic Beanstalk	<ul style="list-style-type: none"> • Web Apps • Cloud Services • API Apps 	Managed hosting platforms providing easy-to-use services for deploying and scaling web applications and services
	<ul style="list-style-type: none"> • CodeDeploy • CodeCommit • CodePipeline 	Visual Studio Team Services	Developer tools for scripting application deployment
App customer payment service	Amazon Flexible Payment Service and Amazon Dev Pay	None	Cloud service that provides developers with a payment service for their cloud-based applications
DevOps	AWS CodeBuild	Visual Studio Team Services	Fully managed build service that supports continuous integration and deployment
Backend process logic	AWS Step Functions	Logic Apps	Cloud technology to build distributed applications using out-of-the-box connectors to reduce integration challenges; connects apps, data and devices on-premises or in the cloud

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Programmatic access	Command Line Interface	<ul style="list-style-type: none">• Azure Command Line Interface (CLI)• Azure PowerShell	Built on top of the native REST API across all cloud services, various programming language-specific wrappers provide easier ways to create solutions
Predefined templates	AWS Quick Start	Azure Quickstart templates	Community-led templates for creating and deploying virtual machine-based solutions
Internet of Things (IoT)			
Internet of Things	AWS IoT Other Services (Kinesis, Machine Learning, EMR, Data Pipeline, SNS, QuickSight)	Azure IoT Suite (IoT Hub, Machine Learning, Stream Analytics, Notification Hubs, PowerBI)	Provides a preconfigured solution for monitoring, maintaining and deploying common IoT scenarios
Edge compute for IoT	AWS Greengrass	Azure IoT Edge	Managed service that deploys cloud intelligence directly on IoT devices to run in on-prem scenarios