



## Azure Fundamentals (AZ-900) Bootcamp

Gain knowledge of Azure cloud concepts and services

December/2021



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@zaalion

**Microsoft®**  
**CERTIFIED**  
*Trainer*



# Course Overview



# Exam AZ-900: Microsoft Azure Fundamentals

<https://docs.microsoft.com/en-us/learn/certifications/exams/az-900>



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# AZ-900 Bootcamp

- Day 01
  - Cloud concepts
  - Core Azure services
  - Core solutions and management tools on Azure
  - Wrap-up and Q&A



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# AZ-900 Bootcamp

- Day 02
  - General Azure security and network security features
  - Azure identity, governance, privacy, and compliance features
  - Azure cost management and service-level agreements
  - Wrap-up and Q&A





# Course Repository

<https://github.com/zaalion/oreilly-az-900>





# Azure Free Account

<https://azure.microsoft.com/en-ca/free>





**Day 1**



# Azure Fundamentals Bootcamp

- Cloud concepts
- Core Azure services
- Core solutions and management tools on Azure
- Wrap-up and Q&A





# Cloud Computing

Cloud computing is the on-demand availability of computer system resources, especially data storage (cloud storage) and computing power, without direct active management by the user.



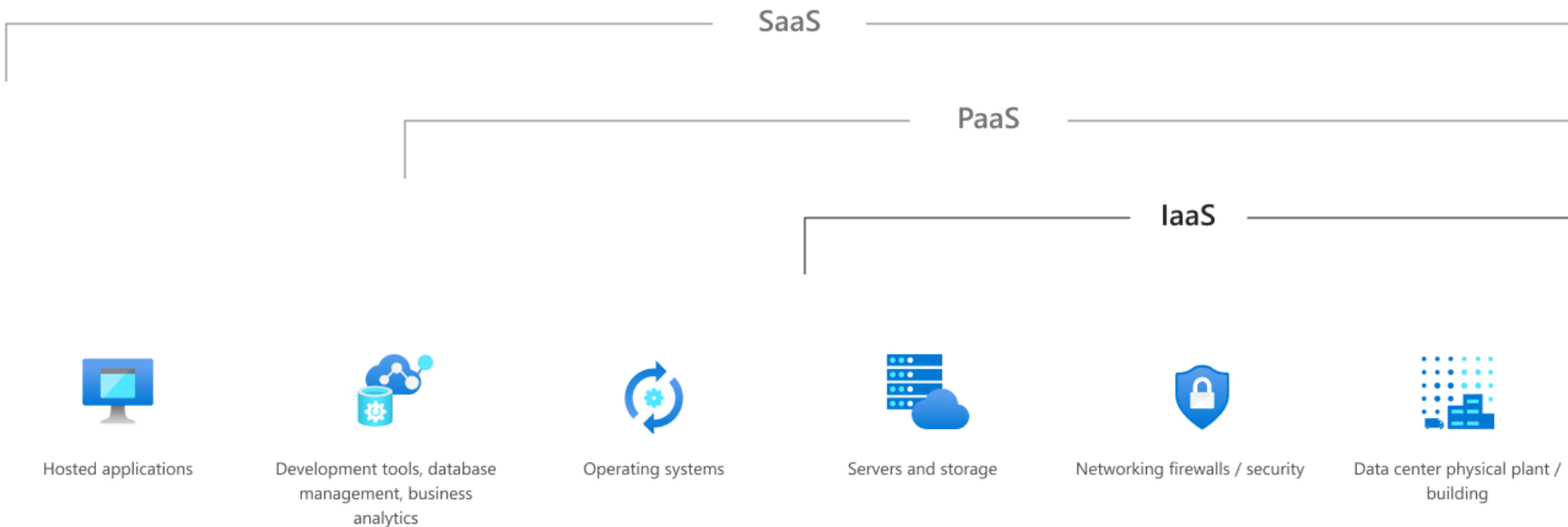
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# Cloud Benefits

- Scalability
- Flexibility (IaaS, PaaS, SaaS)
- Unlimited storage
- Unlimited processing
- Rich tooling
- Easily accessible
- Advanced cost management
- Maintainability
- Rich security
- Democratizing expensive services



# IaaS, PaaS and SaaS



[See reference](#)





# Consumption-based Model

You are charged for only what you use. This model is also known as the Pay-As-You-Go rate.





# Serverless Computing

A cloud computing execution model in which the cloud provider allocates machine resources on demand, taking care of the servers on behalf of their customers.



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# Cloud Considerations

- Design security beforehand (data, app, in transit, at rest)
- Invest in service/app monitoring and logging
- IaaS vs. PaaS vs. SaaS
- Choose your services before jumping into implementation
- Design your solution before jumping into implementation
- Watch the cost
- There are always multiple ways to implement a project







# Cloud Service Categories

AI + machine learning

Analytics

Compute

Containers

Databases

Developer tools

DevOps

Hybrid + multicloud

Identity

Integration

Internet of Things

Management and governance

Media

Migration

Mixed reality

Mobile

Networking

Security

Storage

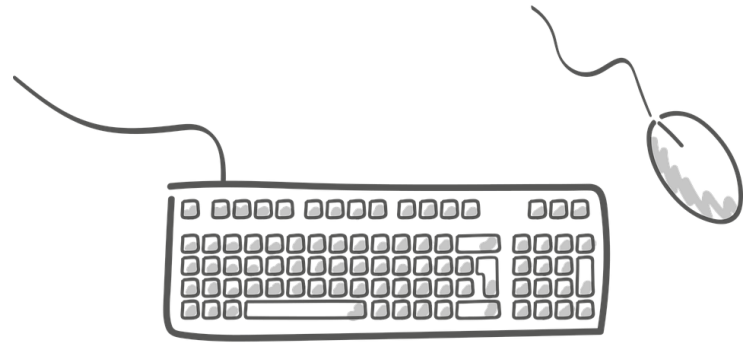
Virtual desktop infrastructure



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# Demo

- Getting to know the Azure portal
- Provisioning a new resource



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# Public, Private and Hybrid Network

- Public cloud: Services and delivered to clients over the public internet, the infrastructure is shared among different clients
- Private cloud: The network is dedicated to one client/company
- Hybrid cloud: Mixture of public and private clouds, which are connected using VPN or other technologies (e.g. Expressroute)



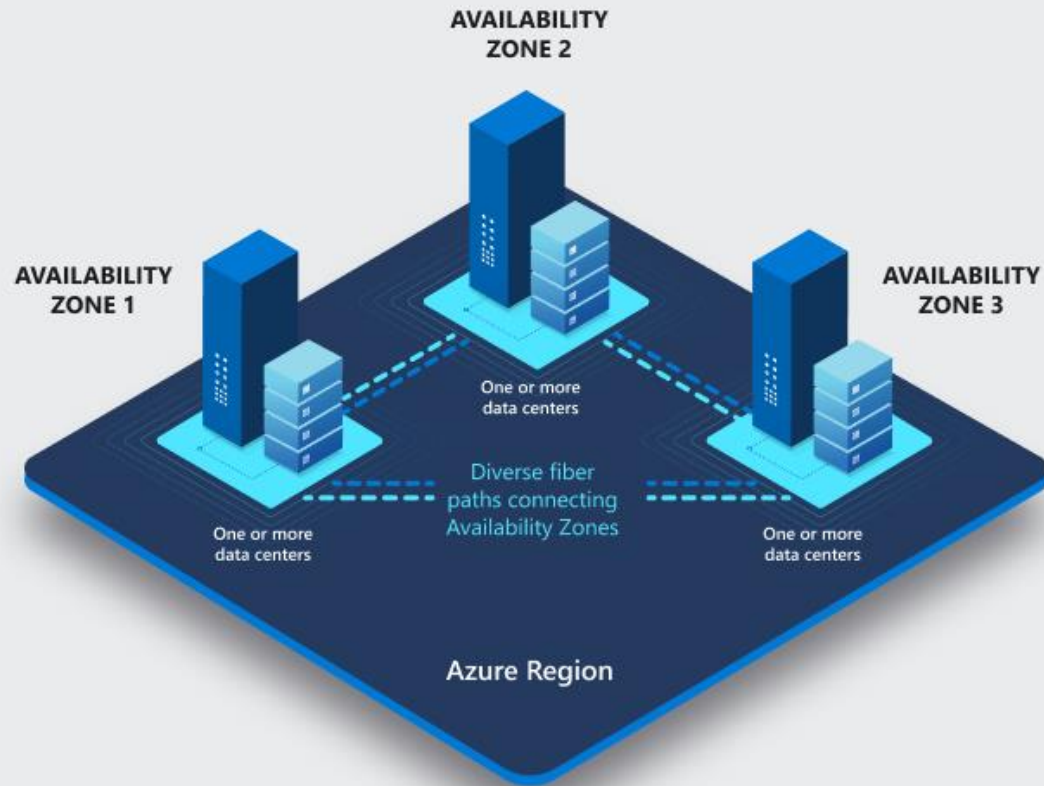
# Azure regions with availability zones

Azure provides the most extensive global footprint of any cloud provider and is rapidly opening new regions and availability zones.

Americas	Europe	Africa	Asia Pacific
Brazil South	France Central	South Africa North	Australia East
Canada Central	Germany West Central		Central India*
Central US	North Europe		Japan East
East US	Norway East		Korea Central
East US 2	UK South		Southeast Asia
South Central US	West Europe		East Asia*
US Gov Virginia	Sweden*		
West US 2			
West US 3			

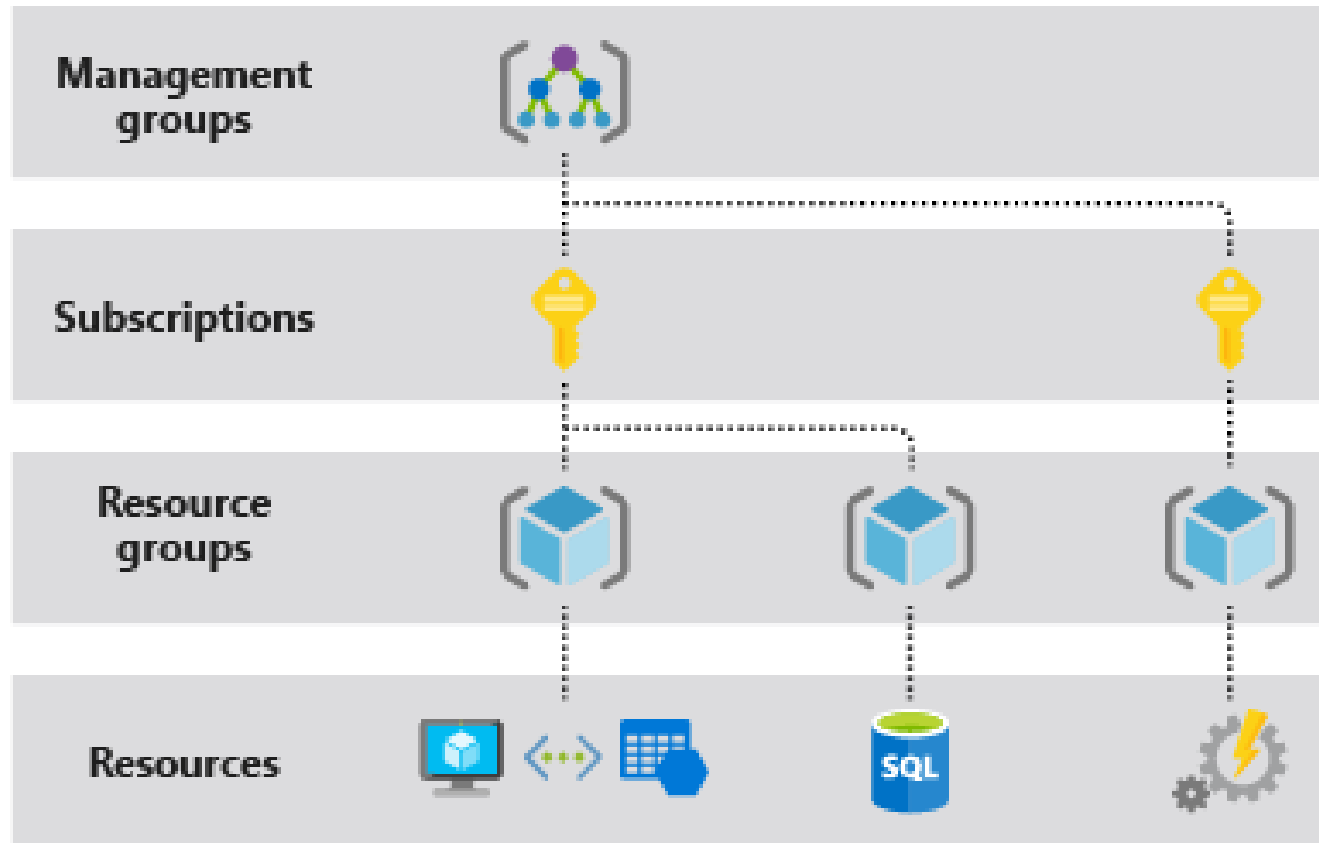
[See reference](#)





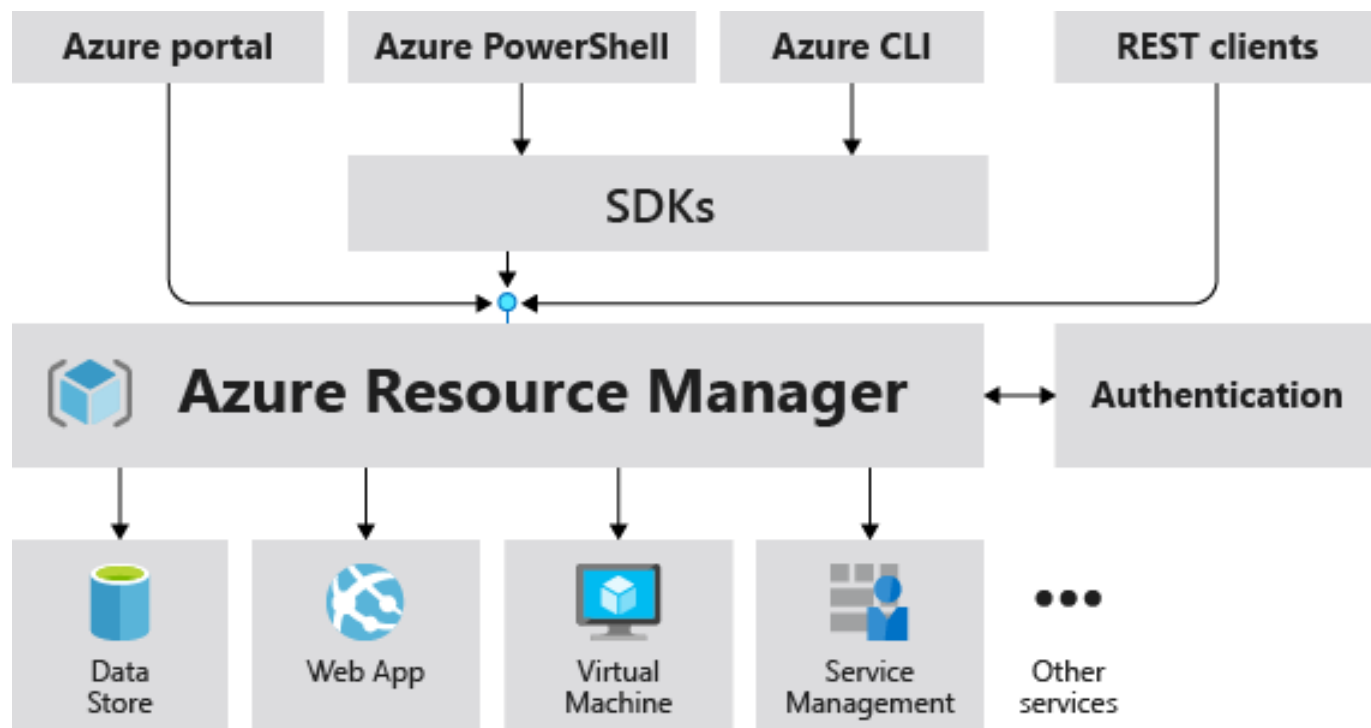
[See reference](#)






[See reference](#)





[See reference](#)





Azure Resource Manager (ARM) is the deployment and management service for Azure.

*See reference*





# Core Azure Services

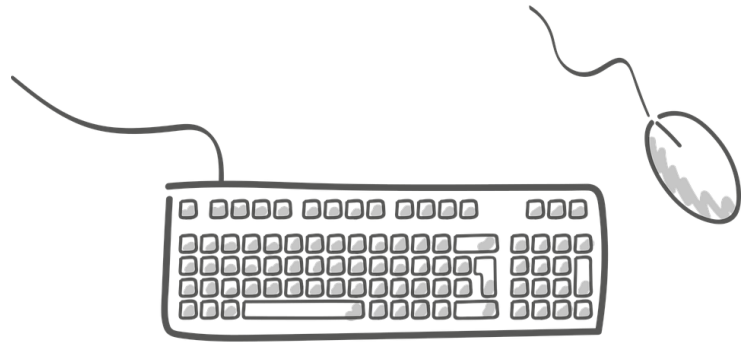
- Virtual machines
- Azure App Service
- Azure Container Instances (ACI)
- Azure Kubernetes Service (AKS)
- Windows Virtual Desktop
- Virtual networks
- VPN gateway
- Virtual network peering, and ExpressRoute
- Container (blob) storage
- Disk storage
- File storage, and storage tiers
- Azure SQL Database, Azure Database for MySQL, Azure Database for PostgreSQL, and SQL Managed Instance



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# Demo

- Azure App Services
- Cosmos DB
- Azure Marketplace



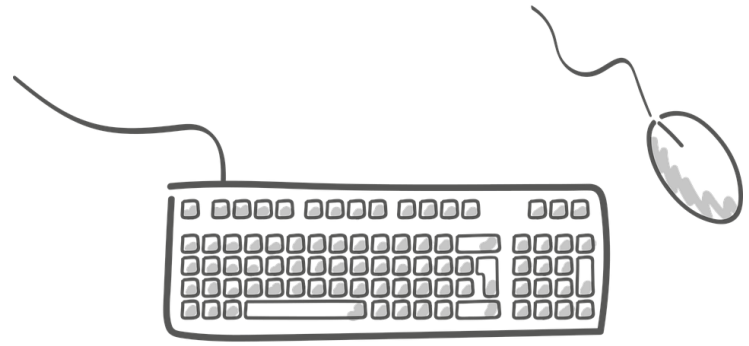
# Core solutions and management tools on Azure

- [Azure Logic Apps](#) and [Function Apps](#)
- [Azure Machine Learning](#)
- [Cognitive Services](#), and [Bot Service](#)
- [Azure DevOps](#), [GitHub](#), [GitHub Actions](#), and [Azure DevTest Labs](#)
- [Internet of Things \(IoT\) Hub](#), [IoT Central](#), and [Azure Sphere](#)
- [HDInsight](#), and [Azure Databricks](#)
- [Azure portal](#), [Azure PowerShell](#), [Azure CLI](#), [Cloud Shell](#)
- [Azure Mobile App](#)
- Azure management tools: [Azure Advisor](#), [Azure Monitor](#), [Azure Service Health](#)
- [Azure Status](#)



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# Demo



- Azure Resource Manager (ARM) templates
- Azure Synapse Analytics
- Azure Functions and Logic Apps





Use Azure Architecture Center for architecting solutions on Azure using established patterns and practices.



**Day 2**



# Azure Fundamentals Bootcamp

- General Azure security and network security features
- Azure identity, governance, privacy, and compliance features
- Azure cost management and service-level agreements
- Wrap-up and Q&A



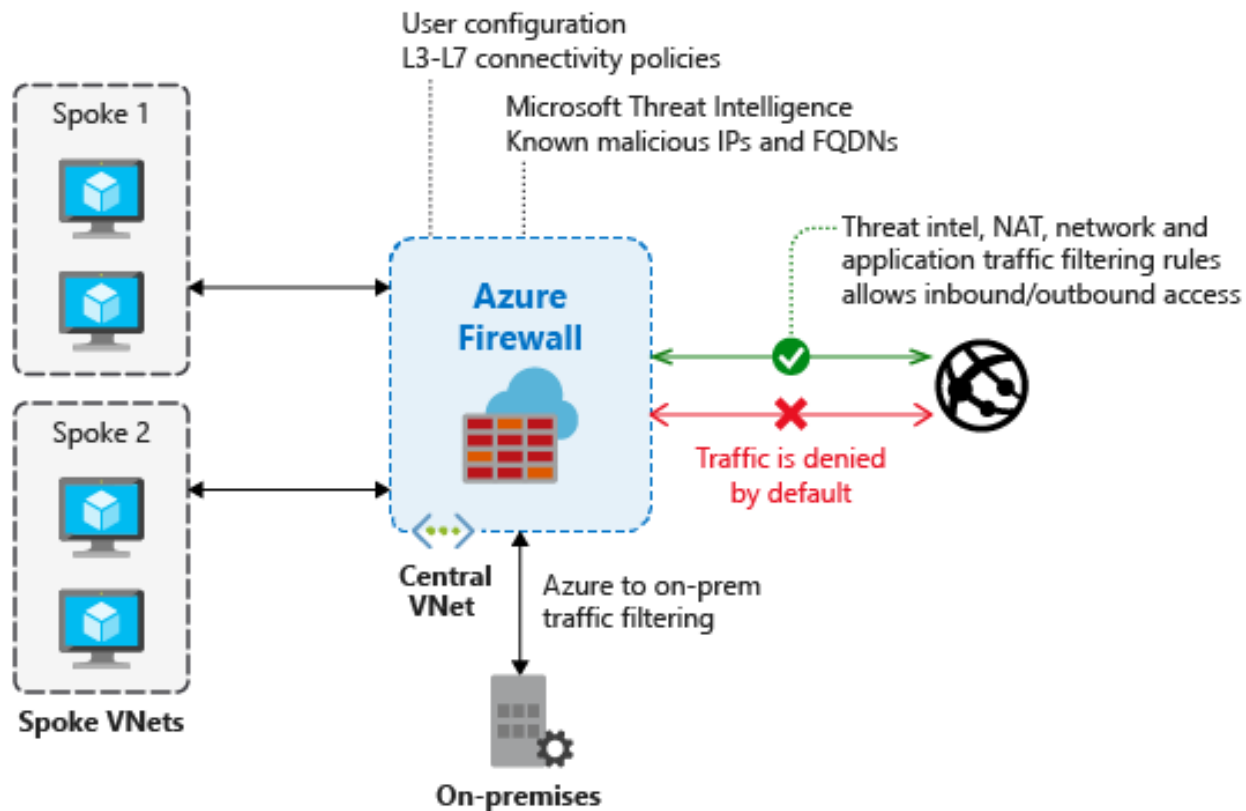


# General Azure security and network security features

- Azure network security and the concept of defense in depth
- Azure Security Center, including policy compliance, security alerts, secure score, and resource hygiene, Azure Status
- Azure Policy
- Azure Sentinel
- Azure Defender
- Azure Dedicated Hosts
- Azure Firewall
- Azure DDoS protection
- Azure Key Vault







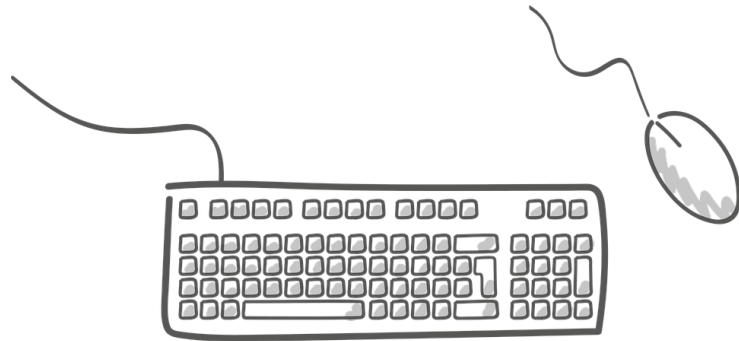
[See reference](#)



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# Demo

- Explore Key Vault
- Network Security Groups (NSG)



# Azure identity, governance, privacy, and compliance features

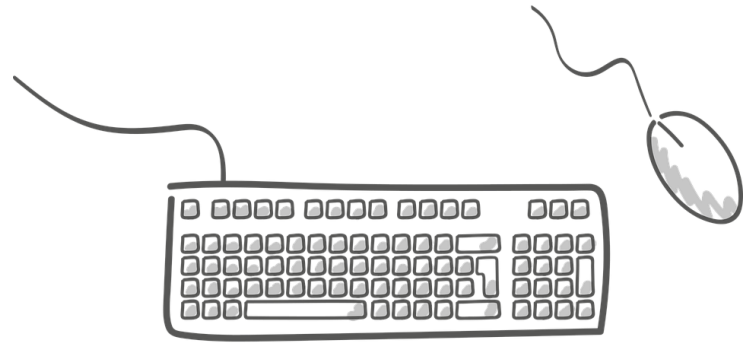
- Authentication vs. authorization
- Azure Active Directory
- Conditional Access, multifactor authentication (MFA), and single sign-on (SSO)
- Azure governance
- Azure Blueprints
- Azure Cloud Adoption Framework
- The purpose of the Microsoft privacy statement, data protection addendum (DPA), and Product Terms site
- Privacy in Azure
- Azure compliance
- Trust Center, Azure regions
- Resource locks



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# Demo

- Role-based access control (RBAC)
- Using Azure Policy



# Azure cost management and service-level agreements

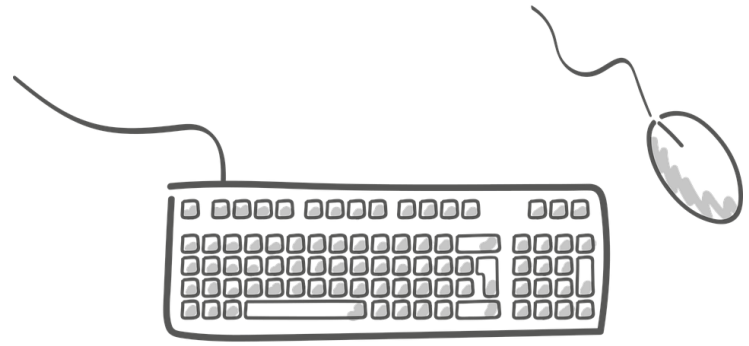
- Methods for planning and managing costs
- Identifying factors that can affect costs (resource types, services, locations, ingress and egress traffic)
- Factors that can reduce costs (reserved instances, reserved capacity, hybrid use benefit, spot pricing)
- The purpose of an Azure service-level agreement
- The service lifecycle in Azure (public preview and general availability)
- Pricing calculator and the total cost of ownership (TCO) calculator
- Azure cost management



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# Demo

- Azure pricing calculator



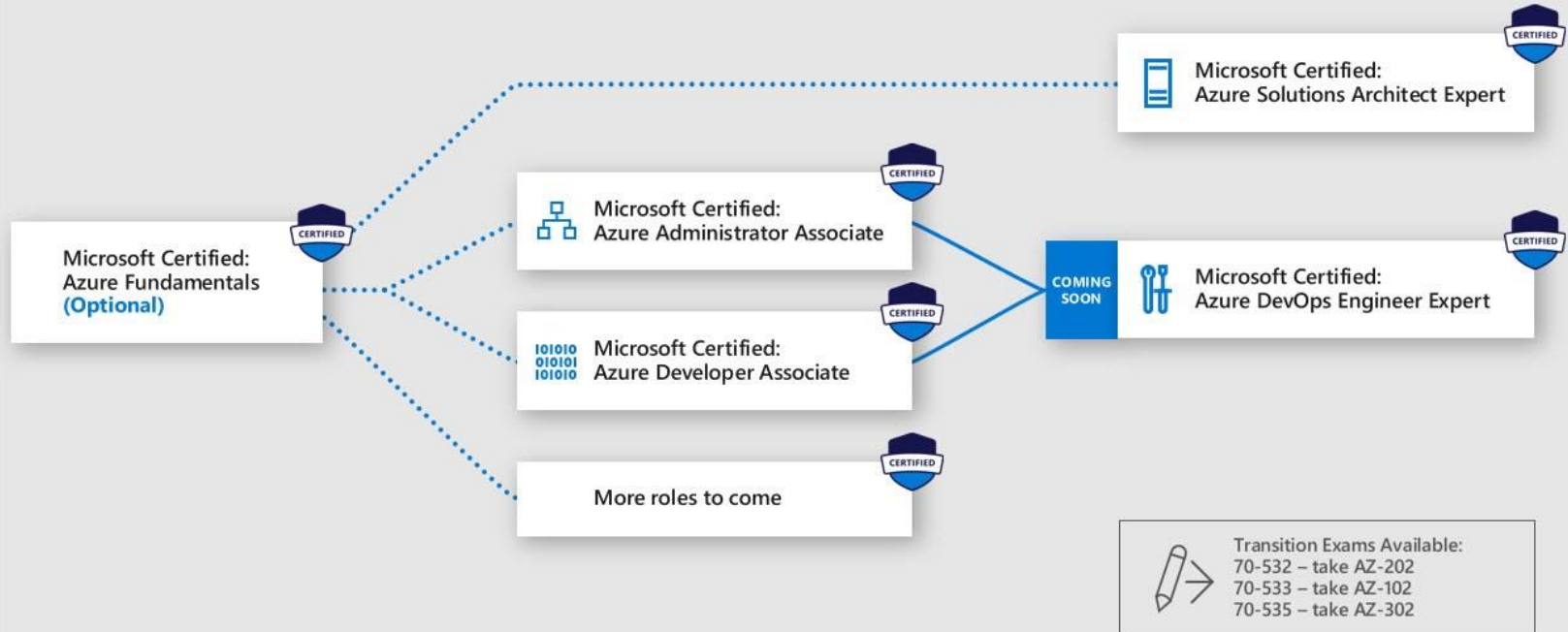
# The Exam

# Azure Apps and Infrastructure certifications

## Fundamentals

## Associate

## Expert



See reference





# Two ways to prepare

Online - Free

Instructor-led - Paid

Learning paths to gain the skills needed to become certified



LEARNING PATH

**Azure Fundamentals part 1: Describe core Azure concepts**

3 Modules

Beginner

Administrator

Azure

Start >

+ Save



LEARNING PATH

**Azure Fundamentals part 2: Describe core Azure services**

4 Modules

Beginner

Administrator

Azure



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# Questions in AZ-900

- Number of Questions 40-60 Questions
- Questions
  - Multiple choice
  - Drag and drop
  - Scenario based
- There will NOT be hands-on labs but watch for updates!
- Pass Score 700 (on a scale of 1-1000)



# AZ-900

- Exam AZ-900 → <https://docs.microsoft.com/en-us/learn/certifications/exams/az-900>
- Skills measured → <https://query.prod.cms.rt.microsoft.com/cms/api/am/binary/RE3VwUY>



# Schedule exam

## Exam AZ-900: Microsoft Azure Fundamentals

United States ▼

**Languages:** English, Japanese, Chinese (Simplified), Korean, Spanish, German, French, Indonesian (Indonesia), Arabic (Saudi Arabia), Chinese (Traditional), Italian, Portuguese (Brazil), Russian

**Retirement date:** none

This exam measures your ability to describe the following concepts: cloud concepts; core Azure services; core solutions and management tools on Azure; general security and network security features; identity, governance, privacy, and compliance features; and Azure cost management and Service Level Agreements.

**\$99 USD\***

Price based on the country in which the exam is proctored.

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## Select exam options

DP-200: Implementing an Azure Data Solution

All fields are required.

How do you want to take your exam? [Exam delivery option descriptions](#)

- ☐ At a local test center
- ☒ At my home or office
- ☐ I have a Private Access Code

Are you going to be testing on this device and network?

If so, perform a quick pre-check to verify compatibility of your device and network before planning to take this exam in your home or office.  
If you skip, be sure to do a full system test before test day to avoid lost exam fees and launch delays.

Run pre-check

Next



## System check - Checking your requirements



Microphone

Default - Microphone (SI ▼)



Internet speed



Webcam

Integrated Webcam (0c▼)

Next



# Course Repository

<https://github.com/zaalion/oreilly-az-900>





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# Q&A



# O'REILLY<sup>®</sup>

## Thank you!

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