

Learn how to get started with Microsoft Azure quickly



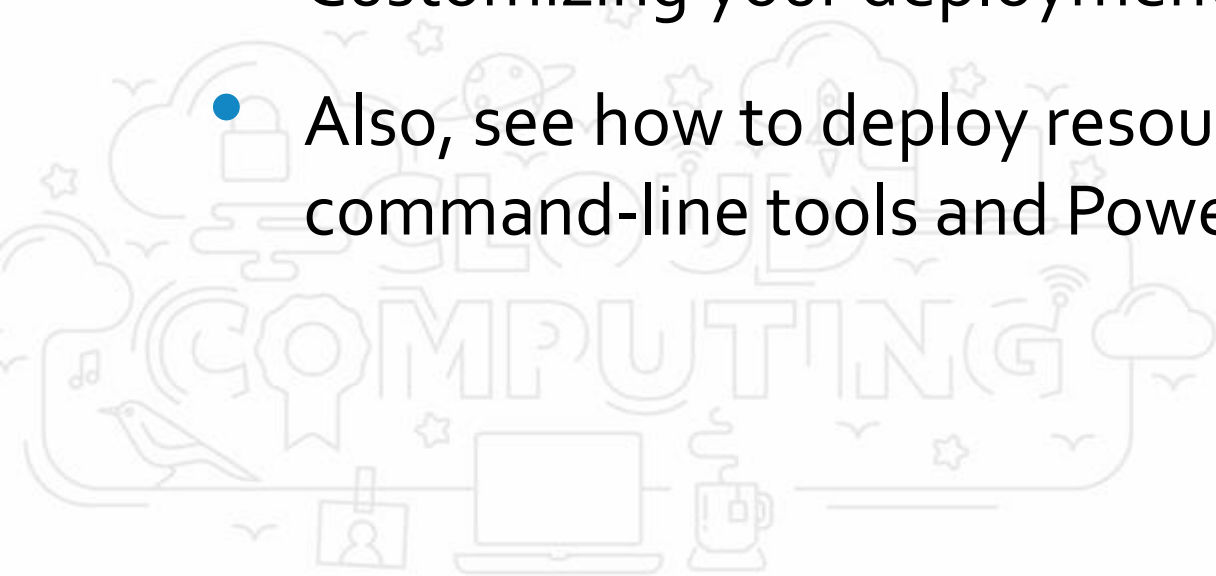
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bittnet
Your skills. Upgraded.

Agenda

- Learn how to use the portal to create and manage resources, including:
- Building a virtual machine, virtual network and storage account
- Creating a Web App, Function App and Logic App.
- Deploying a SQL database and SQL Server as PaaS
- Customizing your deployment with ARM template.
- Also, see how to deploy resources and automate tasks with Azure command-line tools and PowerShell using Azure CloudShell!



Why cloud services?



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

Cloud Services Concepts

High availability

Fault tolerance

Scalability

Elasticity

Global reach

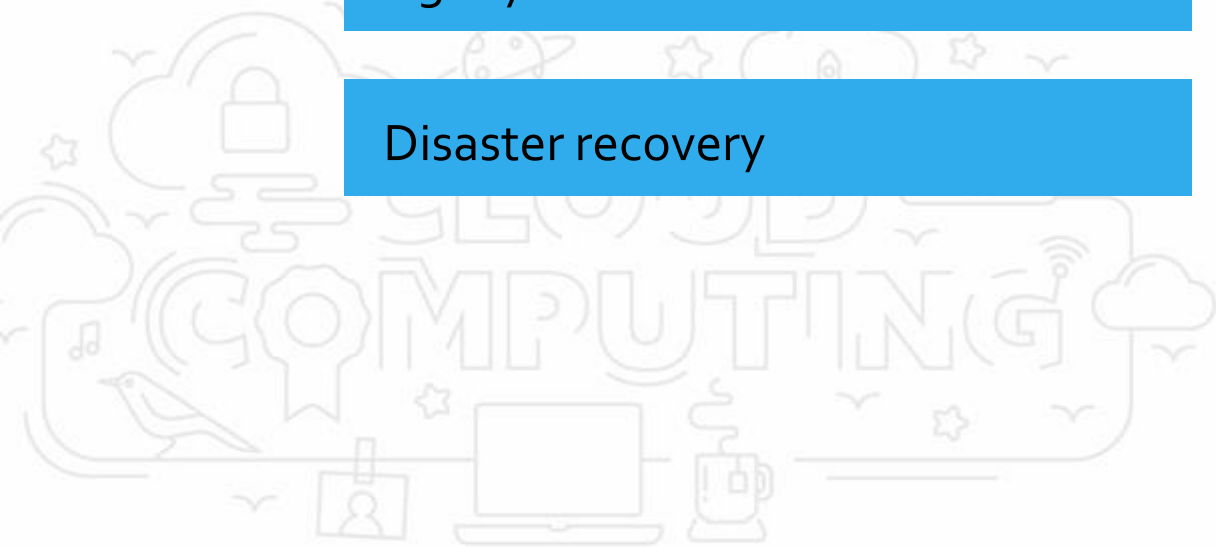
Customer latency capabilities

Agility

Predictive cost considerations

Disaster recovery

Security



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.

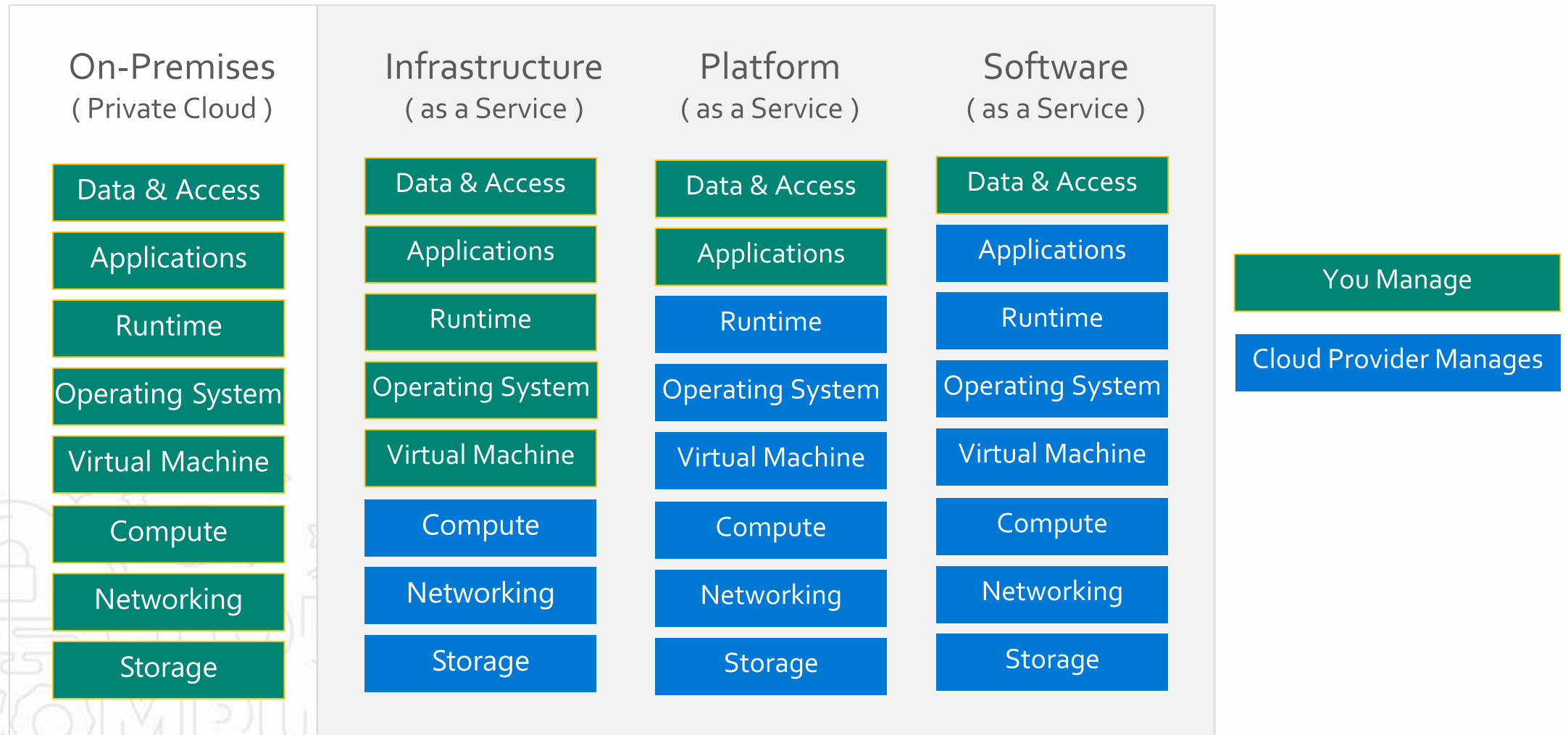
Hybrid cloud:

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

Types of cloud services



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.

Azure management tools



- Azure portal



- Azure PowerShell and Azure Command-Line Interface (CLI)



- Azure Cloud Shell



- Azure mobile app



- Azure REST API

Demo:

Azure Portal and CloudShell



Core Azure architectural components



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.

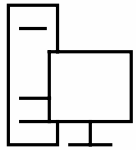


Worldwide there are 58 regions representing 140 countries

Availability Options

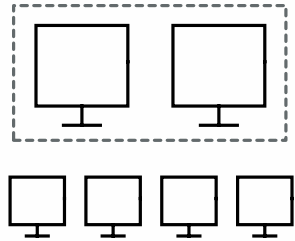
VM SLA

99.9% with Premium Storage



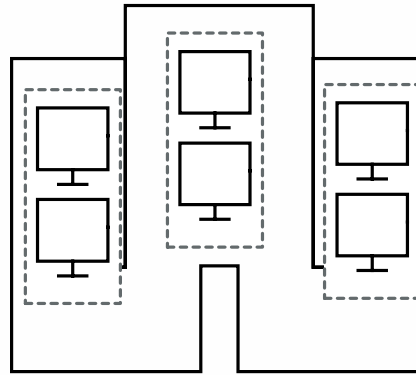
VM SLA

99.95%

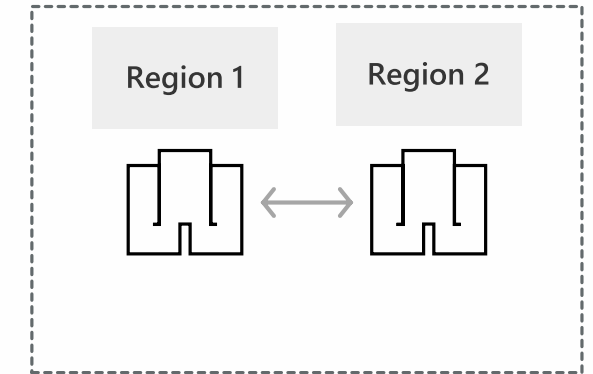


VM SLA

99.99%



MULTI-REGION DISASTER RECOVERY



SINGLE VM

Easier lift and shift

AVAILABILITY SETS

Protecting against failures within datacenters

AVAILABILITY ZONES

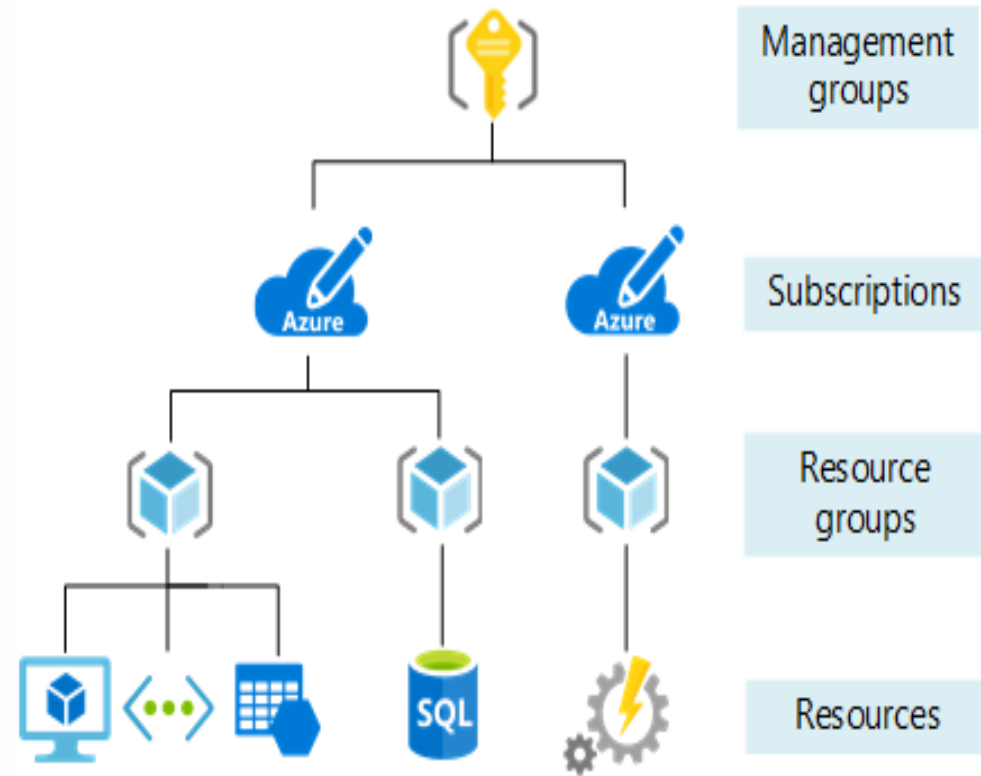
Protection from entire datacenter failures

REGION PAIRS

Regional protection within Data Residency Boundaries

Azure Resource Manager

- 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.



Core Azure services and products



Azure network services



- **Azure Virtual Network** provides secure communication between Azure resources.



- **Azure Load Balancer** automatically scales to create highly-available access to applications or resources.



- **VPN Gateway** is a platform managed scalable and highly available application delivery controller.



- **Azure Application Gateway** provides for the management of traffic to web applications.



- **Content Delivery Network** provides a distributed network of servers that efficiently deliver web content in their local region.








Demo:

Create a virtual network



Azure compute

- On-demand computing service for running cloud-based applications.
- Provides computing resources such as disks, processors, memory, networking, and operating systems.
- Makes resources available in minutes or seconds.
- Lots of on-demand services.
- Pay-per-use.

Everything	COMPUTE (28)	
General		
Compute	 Virtual machines	★
Networking	 Virtual machine scale sets	★
Storage	 Function App	★
Web	 App Services	★
Mobile	 Kubernetes services	★
Containers	 Availability sets	★
Databases		
Analytics	 Disks	★

Azure compute services



- **Azure VMs** use Infrastructure as a Service (IaaS) to provide computing power in the cloud.



- **VM scale sets** are designed for automatic scaling of identical VMs.



- **App services** is a Platform as a Service (PaaS) offering to build, deploy, and scale enterprise-grade web, mobile, and API apps.



- **Functions** perform compute actions based on an event.

Serverless computing



- **Azure Functions** is code running your service and not the underlying platform or infrastructure. Creates infrastructure based on an event.



- **Azure Logic Apps** is a cloud service that helps you automate and orchestrate tasks, business processes, and workflows when you need to integrate apps, data, systems, and services.



- **Azure Event Grid** is a fully-managed, intelligent event routing service that uses a publish-subscribe model for uniform event consumption.

Demo:

Create a virtual machine



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.

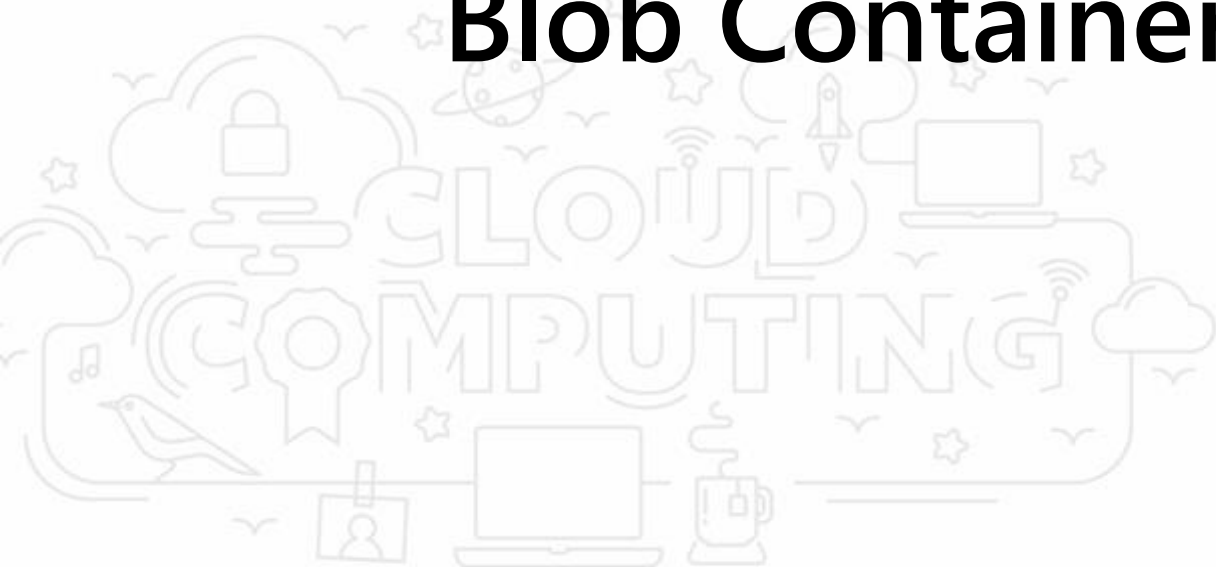
Built on an unified distributed storage system

Durability, Encryption at rest, Strongly consistent replication, fault tolerance, auto load-balancing

Demo:

Create a storage account

Blob Containers and File Shares



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.

Demo:

Create a SQL server and SQL database



Azure Marketplace

- Connects end users with Microsoft partners, Independent Software Vendors (ISVs), and start-ups that offer solutions and services for Azure.
- Azure customers, IT professionals and cloud developers can find, try, purchase, and provision Azure applications and services from certified service providers.
- Includes close to 10,000 product listings.



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.

Demo:

Create a Web App



Demo:

Create a VM with ARM template

Create VM with PowerShell

Create VM with CLI



Microsoft Certifications

Role-based	Azure		Modern Workplace	Business Applications	
	(Apps & Infra)	(Data & AI)			
Expert	Azure Solutions Architect^		Microsoft 365 Enterprise Administrator	Power Apps + Dynamics 365 Solution Architect*	
	Azure DevOps Engineer			Dynamics 365: Finance and Operations Apps Solution Architect*	
Associate	Azure Administrator*	Azure Data Scientist	Microsoft 365 Modern Desktop Administrator	Dynamics 365 Sales Functional Consultant	Dynamics 365 Customer Service Functional Consultant
	Azure Developer*	Azure AI Engineer	Microsoft 365 Teamwork Administrator	Dynamics 365 Marketing Functional Consultant	Dynamics 365 Field Service Functional Consultant
	Azure Security Engineer	Azure Data Engineer	Microsoft 365 Messaging Administrator	Dynamics 365 Finance Functional Consultant	Data Analyst**
		Data Analyst*	Microsoft 365 Security Administrator	Dynamics 365 Supply Chain Management, Manufacturing Functional Consultant	
		Azure Database Administrator*	Microsoft 365 Teams Administrator	Dynamics 365 Supply Chain Management Functional Consultant	
			Microsoft 365 Developer	Power Apps + Dynamics 365 Developer	
				Dynamics 365: Finance and Operations Apps Developer*	
Fundamentals	Azure Fundamentals		Microsoft 365 Fundamentals	Dynamics 365 Fundamentals	Power Platform Fundamentals

Technical skills required to perform a job

Associate

Fundamentals

Foundational understanding of technology

*exam in beta
^exam refresh coming soon

Specialty

Deep technical skills managing industry solutions

Azure for SAP Workloads

Azure IoT Developer

Thanks for participating!

Q&A – 30 min



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