

AZ-900T0x

Module 04:

Azure pricing and support



Lesson 01: Learning objectives



Module 4 – Learning objectives

- Understand and describe Microsoft Azure subscriptions and management groups.
- Recognize ways to plan and manage Azure costs.
- Understand Azure support options.
- Understand and describe features of Azure Service Level Agreements (SLAs).
- Understand and describe the service lifecycle in Azure.

Lesson 02: Azure subscriptions



Azure subscriptions



- An Azure subscription provides you with authenticated and authorized access to Azure accounts.
- Subscriptions can provide billing and access control boundaries.
- An account can have one subscription or multiple subscriptions.

Subscription offers

- Free (next slide)
- Pay-as-you-go
- Enterprise Agreement
- Student
- An account can have one subscription or multiple subscriptions.

SELECT AN OFFER



Pay-As-You-Go Dev/Test

This offer is for teams of active Visual Studio subscribers to run dev/test workloads on Microsoft Azure, providing discounted rates on Windows virtual machines and access to exclusive images in the Azure Gallery.

[➔ Learn more](#)



Visual Studio Enterprise: BizSpark

Enjoy monthly credits and lower rates.
Use MSDN software at no additional charge.

[➔ Learn more](#)



Visual Studio Professional

Enjoy monthly credits and lower rates.
Use MSDN software for development and test at no additional charge.

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Azure free account

What do I get?

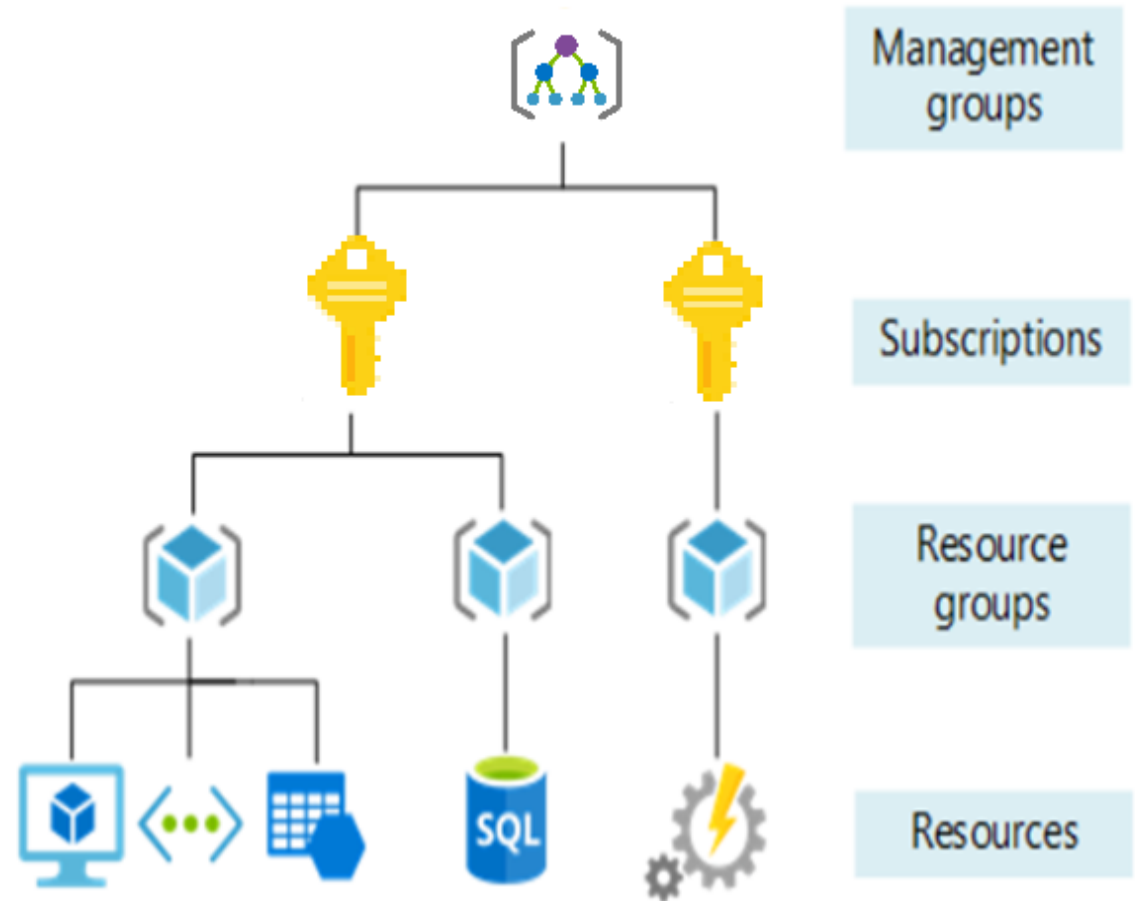
With your Azure free account, you get all of this—and you won't be charged until you choose to upgrade.

12 months	+	\$200 credit	+	Always free
of popular free services		to explore any Azure service for 30 days		25+ services

- Provides 12 months of our most popular services, a \$200 credit to explore any Azure service for 30 days, and over 25 services are free.
- At the end of the trial you can upgrade to pay-as-you-go pricing.

Management Groups

- Management groups can include multiple Azure subscriptions.
- Subscriptions inherit conditions applied to the management group.
- 10,000 management groups can be supported in a single directory.
- A management group tree can support up to six levels of depth.



Lesson 03: Planning and managing costs



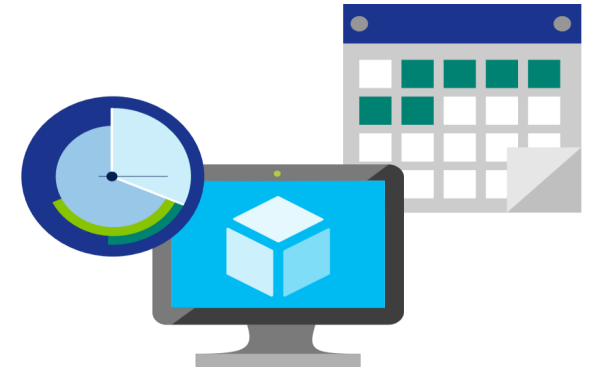
Purchasing Azure products and services

- Three main customer types on which the available purchasing options for Azure products and services are contingent are:
 - **Enterprise:** Enterprise customers sign an Enterprise Agreement with Azure that commits them to spending a negotiated amount on Azure services, which they typically pay annually.
 - **Web direct:** Web direct customers sign up for Azure through the Azure website.
 - **Cloud solution providers (CSPs):** Typically are Microsoft partner companies that a customer hires to build solutions on top of Azure. Payment and billing for Azure usage occurs through the customer's CSP.

Factors affecting costs

There are three primary factors affecting costs:

- **Resource Type:** Costs are resource-specific, so the usage that a meter tracks and the number of meters associated with a resource depend on the resource type.
- **Services:** Azure usage rates and billing periods can differ between Enterprise, Web Direct, and CSP customers.
- **Location:** The Azure infrastructure is globally distributed, and usage costs might vary between locations that offer Azure products, services, and resources.



Zones for Billing Purposes




- *Bandwidth* refers to data moving in and out of Azure datacenters. Some inbound data transfers are free, such as data going into Azure datacenters. For outbound data transfers—such as data going out of Azure datacenters—pricing is based on Zones.
- Zone 1 - West US, East US, West Europe, and others.
- Zone 2 - Australia Central, Japan West, Central India, and others.
- Zone 3. - Brazil South only.
- DE Zone 1- Includes Germany Central and Germany Northeast.





Pricing calculator

- Provides a detailed *estimate* of the costs associated with your infrastructure configuration.

Your Estimate




Virtual Machines



1 D2 v3 (2 vCPU(s), 8 GB RAM) x 730 Hours;

\$188.57



Virtual Machines

REGION:

West US

OPERATING SYSTEM:

Windows

TYPE:

(OS Only)

TIER:

Standard


INSTANCE:


D2 v3: 2 vCPU(s), 8 GB RAM, 50 GB Temporary storage, \$0.209/hour


Clone

Delete

More info

 Pricing details

 Product details

 Documentation

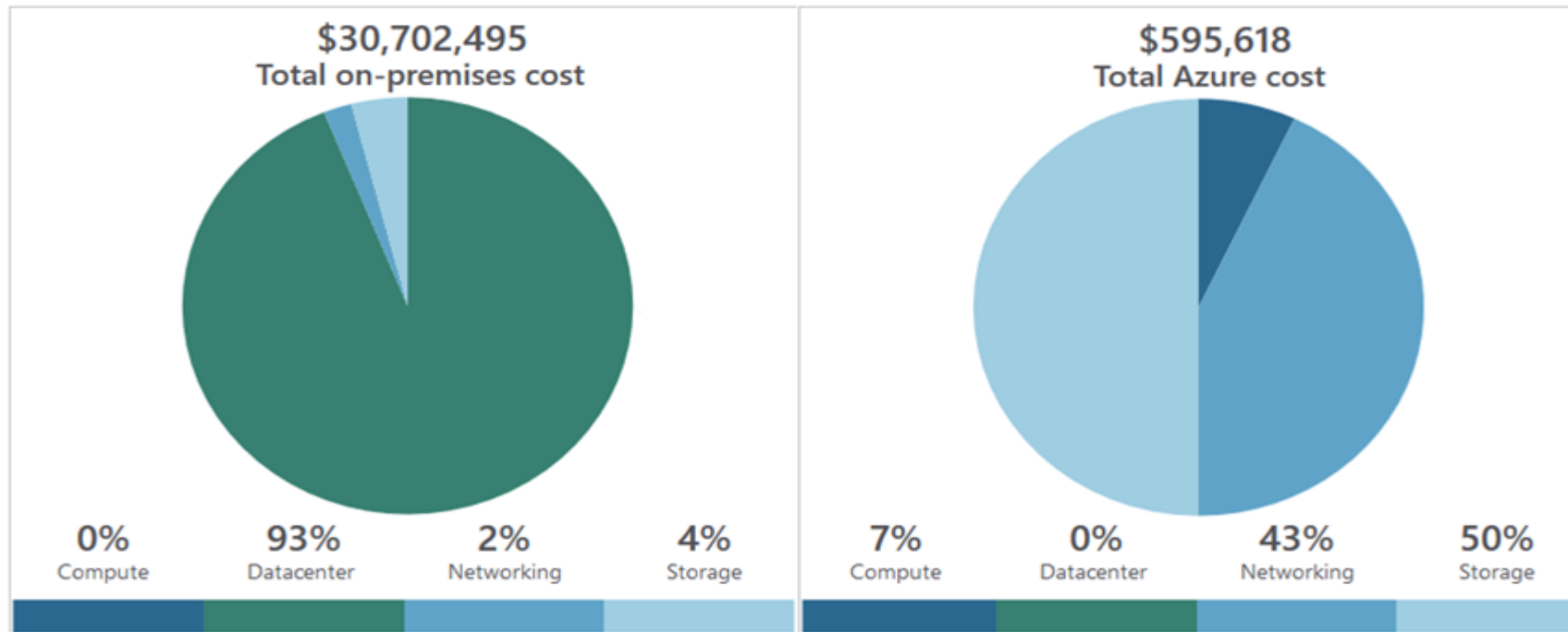
Walkthrough - Use the Azure Pricing Calculator

Use the Azure Pricing Calculator to generate a cost estimate for an Azure virtual machine and related network resources.

1. Configure the pricing calculator.
2. Review the pricing estimate.

Total cost of ownership calculator

- A tool to estimate cost savings you can realize by migrating to Azure.
- A report compares the costs of on-premises infrastructures with the costs of using Azure products and services in the cloud.

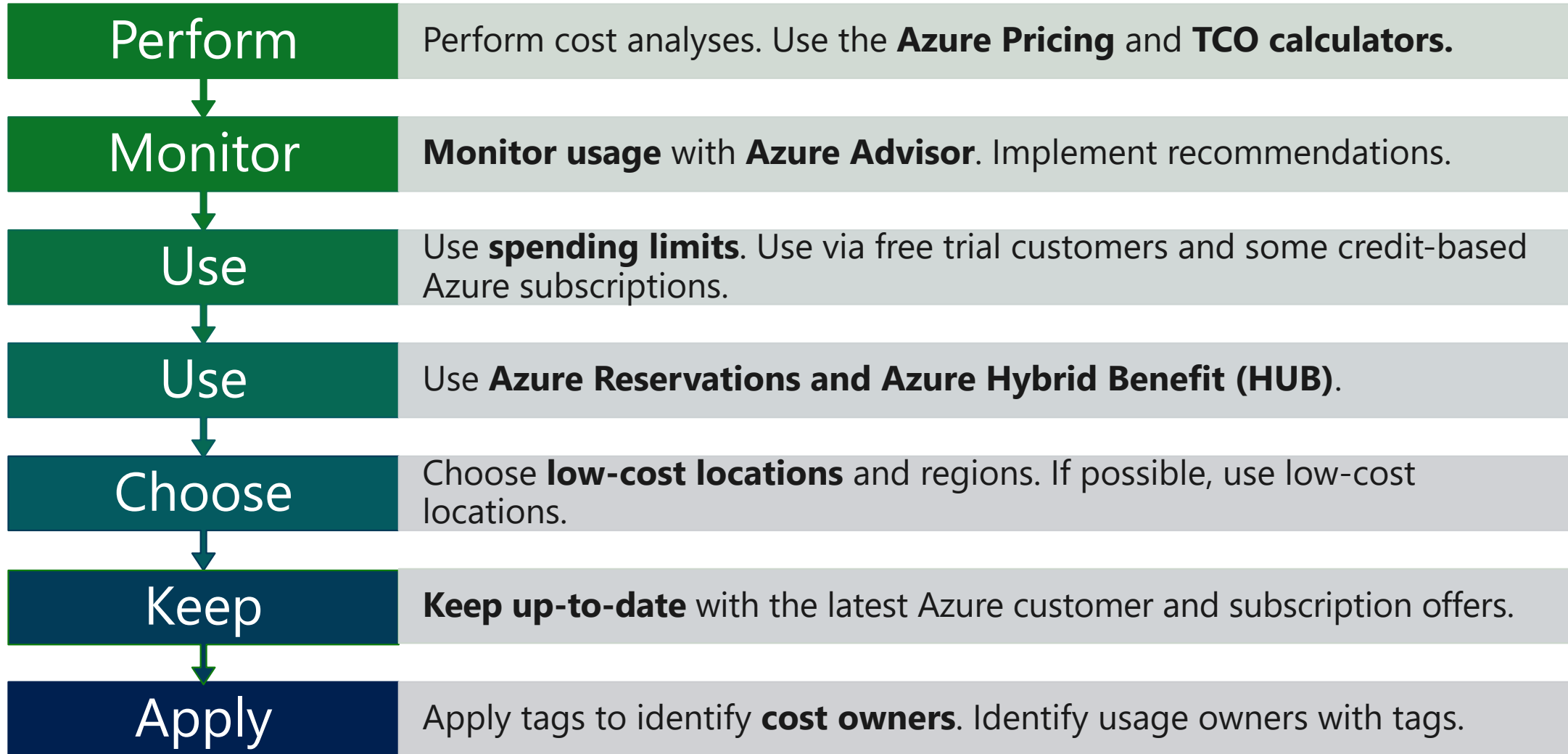


Walkthrough - Use the Azure TCO Calculator

Use the Total Cost of Ownership (TCO) Calculator to generate cost comparison report for an on-premises environment.

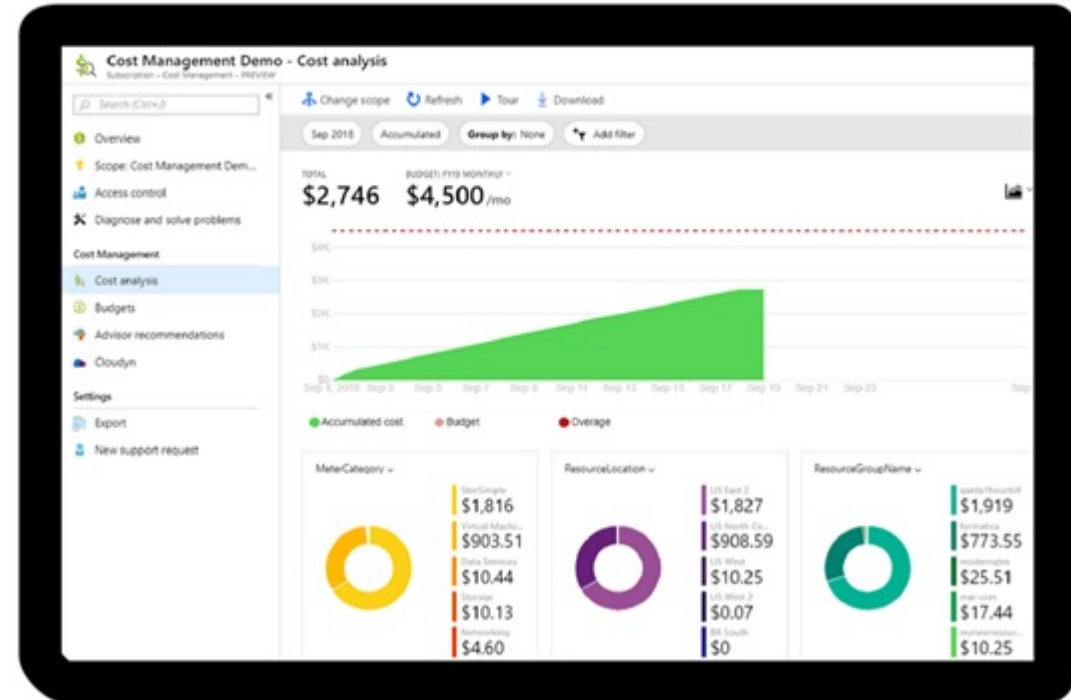
1. Configure the TCO calculator.
2. Review the results and save a copy.

Minimizing costs



Azure Cost Management

- Reporting
- Data enrichment
- Budgets
- Alerting
- Recommendations



Lesson 04: Azure support options



Support plan options

Every Azure subscription includes free access to billing and subscription support, Azure products and services documentation, online self-help documentation, white papers, and community support forums.

	Basic	Developer	Standard	Professional Direct
Scope	Available to all Microsoft Azure accounts	Trial and non-production environments	Production workload environments	Business-critical dependence
Technical Support		Business hours access to Support Engineers via email	24x7 access to Support Engineers via email and phone	24x7 access to Support Engineers via email and phone

Alternative support channels



• Microsoft Developer Network (MSDN) Azure Forums



• Stack Overflow



• Server Fault



• Microsoft Azure general feedback



• @AzureSupport

Knowledge Center

A searchable database that contains support questions and answers from a community of Azure experts, developers, customers, and users.

Knowledge Center

Get answers to common questions.

Search

Filter by product

virtual machines × 🔍

Browse ▼ Search for a product 🔍

Questions matching "virtual machines"

About the features in Azure Backup
Learn More
[Learn more >](#)

Am I billed separately for local disk storage?
No. All new virtual machines have an operating system disk and a local disk (or "resource disk"). We don't charge for local disk storage. The operating system disk is charged at the regular rate for disks. See all virtual machines config...
[Learn more >](#)

Are data transfers over the VPN connection charged separately?
Data transfers over the VPN connections to your on-premises sites or the internet in general are charged separately at the regular data transfer rate.
[Learn more >](#)

Are there additional diagnostics for Azure VM reboot issues?
Learn More
[Learn more >](#)

Walkthrough - Open a Support Request

View available support plan options and then practice creating and monitoring a new support request.

1. View available support plan options and create a new *technical* support request.
2. Create a *billing* support request.

Lesson 05: Azure Service Level Agreements (SLAs)



Service Level Agreements (SLAs)

- SLAs document the specific terms that define Azure performance standards.
- SLAs define Microsoft's commitment to an Azure service or product.
- Individual SLAs are available for each Azure product and service.
- SLAs also define what happens if a service or product fails to meet the designated availability commitments.



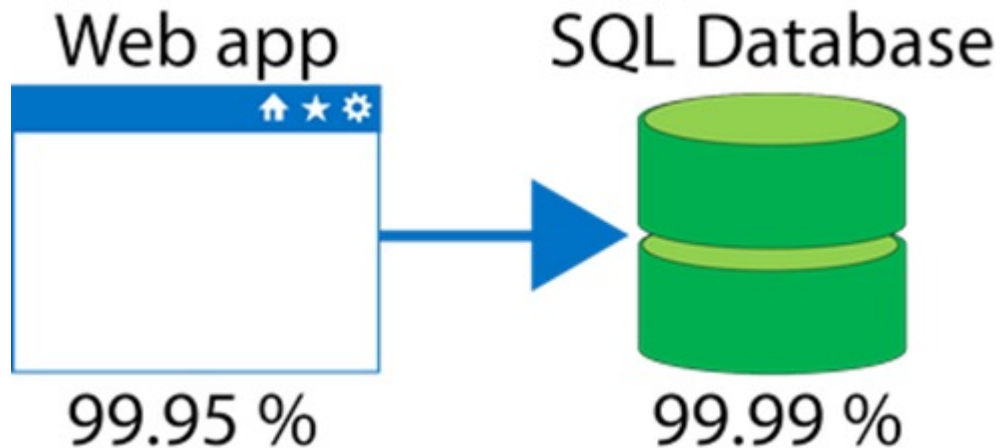
SLAs for Azure products and services

- Performance targets are expressed as uptime and connectivity guarantees.
- Performance-targets range from 99.9% (three nines) to 99.99% (four nines).
- If a service fails to meet the guarantees, a percentage of the monthly service fees can be credited to you.

SLA	Downtime per month	Downtime per year
99.9%	43.2 minutes	8.76 hours
99.95	21.6 minutes	4.38 hours
99.99	4.32 minutes	52.56 minutes

Composite SLAs

- If the App Service has a 99.95% SLA, and the Azure SQL Database has a 99.99% SLA, what is the composite SLA for your application?



Composite SLA

$$.9995 * .9999$$
$$= 99.94\%$$

- Notice the composite SLA is lower than the individual SLAs.
- Improve the SLA by creating independent fallback paths.

Application SLAs

- Customers should determine what SLA is needed for their application.
- Know your workload requirements and usage patterns.
- Design for resiliency and availability.
- Establish availability metrics — mean time to recovery (MTTR) and mean time between failures (MTBF).
- Establish recovery metrics — recovery time objective and recovery point objective (RPO).
- Implement resiliency strategies.
- Build in availability requirements.

Walkthrough - Calculate a Composite SLA

Determine services SLA uptime percentages and then calculate the application composite SLA uptime percentage.

1. Determine the SLA uptime percentage values for an application.
2. Calculate the Application Composite SLA percentage uptime.

Lesson 06: Service lifecycle in Azure

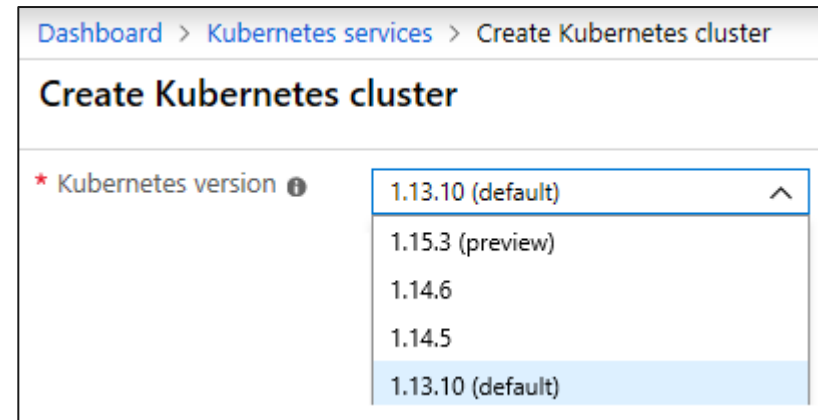


Public and private preview features

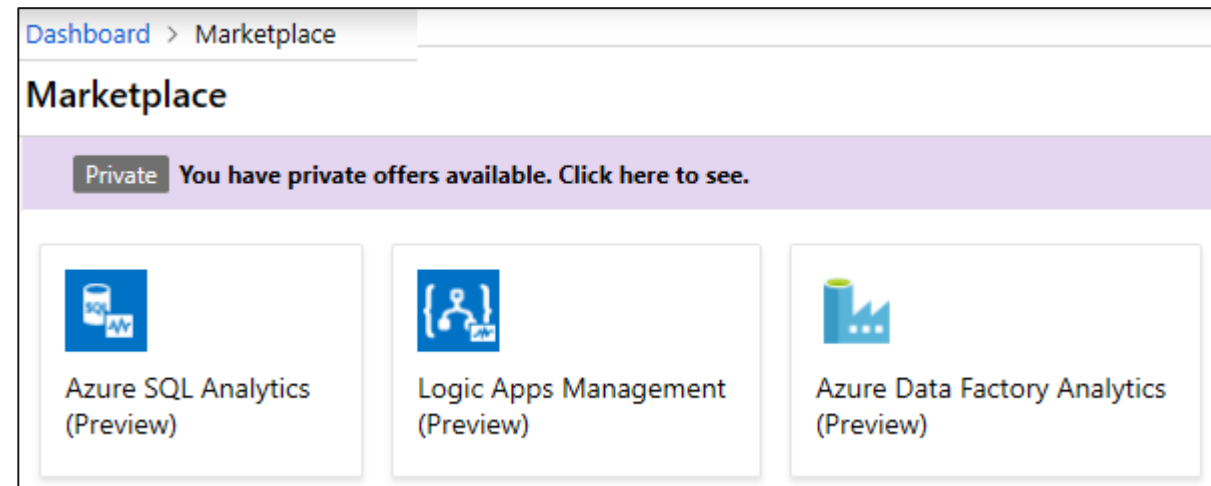
- Microsoft offer previews of Azure features for evaluation purposes.
- With Azure previews, you can test beta and other pre-release features, products, services, software, and regions.
- **Private Preview** is an Azure feature available to certain Azure customers for evaluation purposes.
- **Public Preview** is an Azure feature available to all Azure customers for evaluation purposes.

Accessing preview features

- Preview new functionality and features for an existing service.

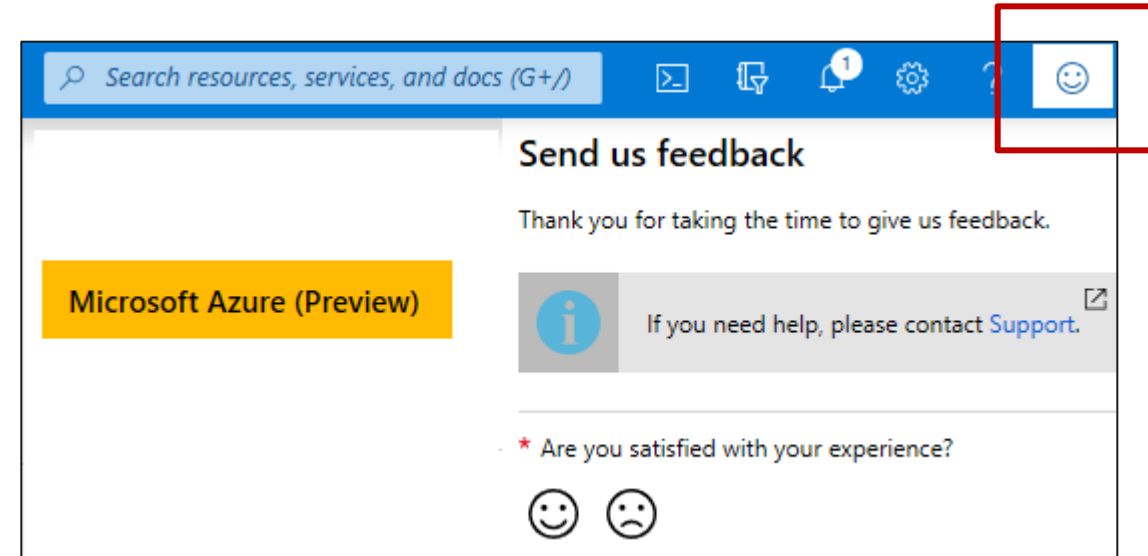


- Preview new services.



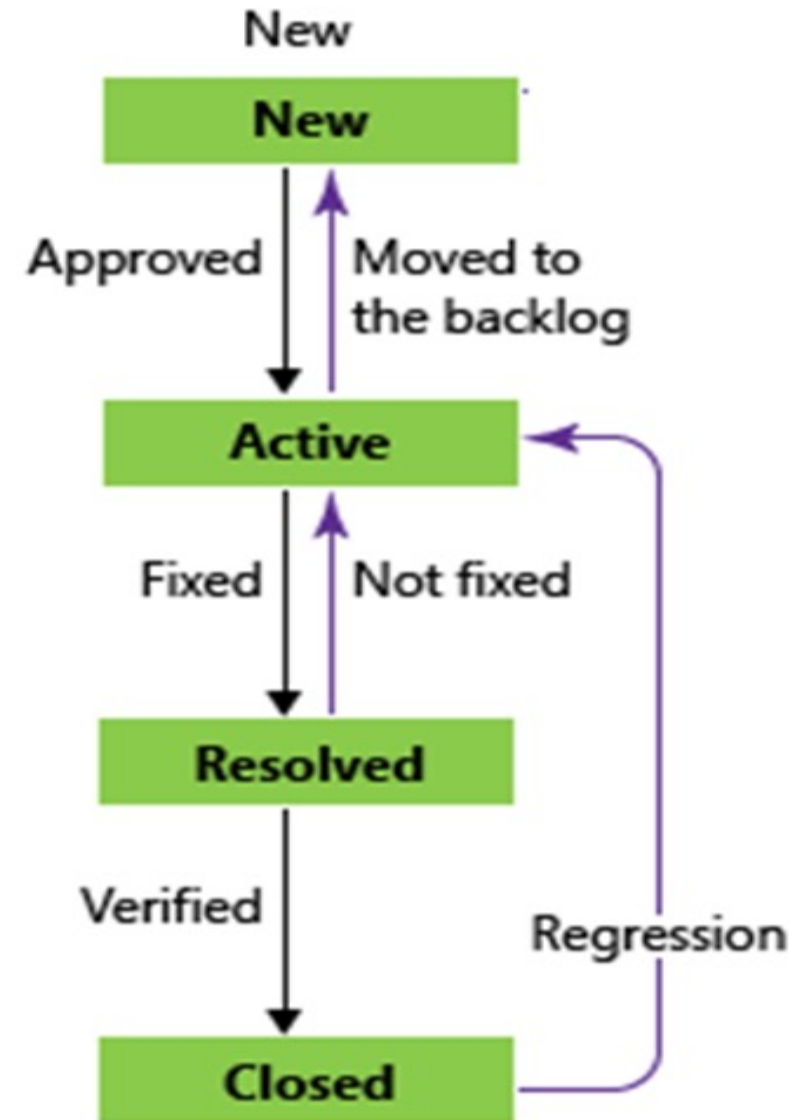
Accessing Azure Portal preview

- Access the Azure Portal (Preview) - <https://preview.portal.azure.com>.
- Provide feedback on new features such as full-screen blades, performance, navigation, notifications, and accessibility improvements.
- Check out the Azure Portal feedback forum.

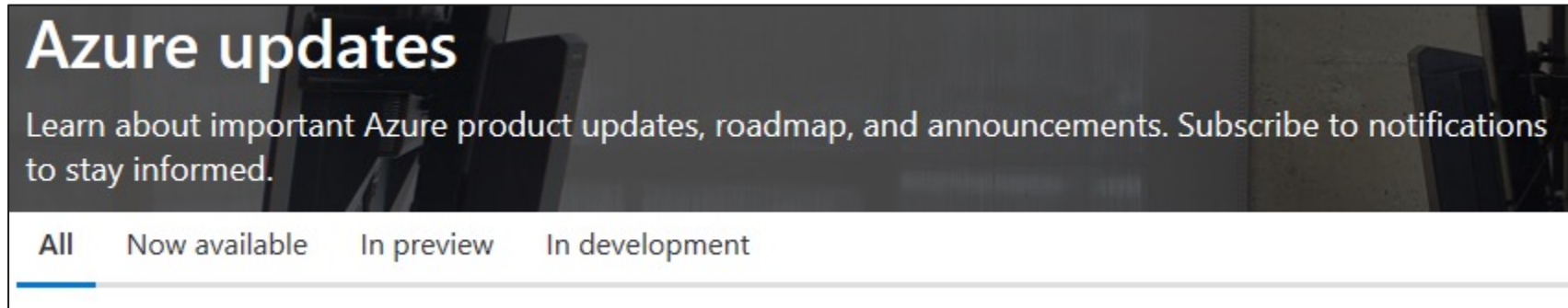


General Availability

- New features are evaluated and tested.
- Feature bugs go through a lifecycle of new, active, resolved, and fixed.
- General availability provides successfully tested features to all Azure customers.
- Azure blog announcements is a good source of information.



Monitoring service and feature updates



- Azure updates provides information about the Azure products, services, and features, and product roadmaps, and availability.
- View details about all Azure updates and their status.
- Browse and search for updates.
- Subscribe to Azure update notifications by RSS.

Walkthrough - Access Azure Preview features

Access and identify Azure preview services and features and view the latest Azure updates information.

1. Access preview services and features.
2. Review the Azure updates page.

Lesson 07: Module review questions

