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# Azure Interview 50 Questions with Answers



Azure



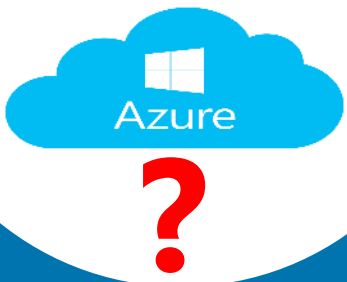


## 1) What is the Windows Azure Platform?

Windows Azure is created by Microsoft, it is a cloud computing infrastructure and platform. It is designed for working on the global network of Microsoft. It is for building, managing and deploying services and applications through our global network of datacentres

## 2) Which service in Azure is used to manage resources ?

Azure Resource Manager is used to "manage" infrastructures which involve a number of azure services. It can be used to deploy, manage and delete all the resources together using a simple JSON script.



### 3) What are the different type of services offered in the cloud?

The different type of services offered in the cloud are:

- 1 IaaS:** In infrastructure as a service, you get the raw hardware from your cloud provider as a service i.e you get a server which you can configure with your own qill.
- 2 PaaS:** Platform as a Service, gives you a platform to publish without giving the access to the underlying software or OS. For example: Web Apps, Mobile Apps in Azure.
- 3 SaaS:** You get software as a service in Azure, i.e no infrastructure, no platform, simple software that you can use without purchasing it. For example: when you launch a VM on Azure, you are not buying the OS, you are basically renting it for the time you will be running that instance.





## 4) What are the different cloud deployment models?

Following are the three cloud deployment models:

**Public Cloud:** The infrastructure is owned by your cloud provider and the server that you are using could be a multi-tenant system.

**Private Cloud:** The infrastructure is owned by you or your cloud provider gives you that service exclusively. For example: Hosting your website on your servers, or hosting your website with the cloud provider on a dedicated server.

**Hybrid Cloud:** When you use both Public Cloud, Private Cloud together, it is called Hybrid Cloud. For Example: Using your in-house servers for confidential data, and the public cloud for hosting your company's public facing website. This type of setup would be a hybrid cloud.





## 5) What are Roles and why do we use them?

Roles are nothing servers in layman terms. These servers are managed, load balanced, Platform as a Service virtual machines that work together to achieve a common goal.

- 1 Web Role** – A web role is basically used to deploy a website, using languages supported by the IIS platform like, PHP, .NET etc. It is configured and customized to run web applications.
- 2 Worker Role** – A worker role is more like an help to the Web role, it used to execute background processes unlike the Web Role which is used to deploy the website.
- 3 VM Role** – The VM role is used by a user to schedule tasks and other windows services. This role can be used to customize the machines on which the web and worker role is running.



## 6) What are virtual machine scale sets in Azure?

Virtual machine scale sets are Azure compute resource that you can use to deploy and manage a set of identical VMs. With all the VMs configured the same, scale sets are designed to support true autoscale, and no pre-provisioning of VMs is required. So it's easier to build large-scale services that target big compute, big data, and containerized workloads

## 7) What are features of Windows Azure?

Windows Azure runs and stores the data on Microsoft datacentres. There are many features that are specified here: Websites allows the developers to build the sites using ASP.NET, PHP, etc. and deploy these websites using FTP, Git etc.

SQL Database, formally known as Azure database creates, extends and scales the application into the cloud using Microsoft SQL Server.

This is Microsoft's platform as a service that supports the Multi-tier applications and automated deployment.





## 8) What is Azure Service Fabric?

Azure Service Fabric is a distributed systems platform that makes it easy to package, deploy, and manage scalable and reliable micro-services. Service Fabric also addresses the significant challenges in developing and managing cloud applications.

Developers and administrators can avoid complex infrastructure problems and focus on implementing mission-critical, demanding workloads that are scalable, reliable, and manageable.

Service Fabric represents the next-generation middleware platform for building and managing these enterprise-class, tier-1, cloud-scale applications.

## 9) What is difference between Windows Azure Platform and Windows Azure?

The former is Microsoft's PaaS offering including Windows Azure, SQL Azure, and Appfabric; while the latter is part of the offering and the Microsoft's cloud OS.



## 10) What is Azure Queues?

Windows Azure Queue Storage is a service for storing a large number of messages that can be accessed from anywhere using HTTP or HTTPS. A single message can be up to 64KB in size. So, a queue may contain millions of messages. It is basically a part of Windows Azure Storage and enabled with a REST based architecture.

## 11) What is Windows Azure Service Bus Queues?

Service Bus queues support brokered messaging communication.

Queues provide First In, First Out (FIFO) message delivery, in other words messages are received and processed by the receivers in the order they were added to the queue.

Each message is received and processed by only one message receiver



## 12) Why is Azure Active Directory used?

Azure Active Directory is an Identity and Access Management system. It is used to grant access to your employees to specific products and services in your network. For example: Salesforce.com, twitter etc. Azure AD has some in-built support for applications in its gallery which can be added directly

## 13) What are the three main components of Windows Azure Platform?

- Compute
- Storage
- AppFabric

## 14) What are the options to manage session state in Windows Azure?

- Windows Azure Caching
- SQL Azure
- Azure Table

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## 15) What is windows Azure Diagnostics?

Windows Azure Diagnostics enables you to collect diagnostic data from an application running in Windows Azure. You can use diagnostic data for debugging and troubleshooting, measuring performance, monitoring resource usage, traffic analysis and capacity planning, and auditing.

## 16) What is Blob?

BLOB stands for Binary Large Object. Blob is file of any type and size.

The Azure Blob Storage offers two types of blobs –

1. Block Blob
2. Page Blob

URL format: Blobs are addressable using the following URL format:  
<http://.blob.core.windows.net/>





## 17) What is Azure Search?

Azure Search is a cloud search-as-a-service solution that delegates server and infrastructure management to Microsoft, leaving you with a ready-to-use service that you can populate with your data and then use to add search to your web or mobile application.

Azure Search allows you to easily add a robust search experience to your applications using a simple REST API or .NET SDK without managing search infrastructure or becoming an expert in search.





## 18) How many instances of a Role should be deployed to satisfy Azure SLA (service level agreement) ? And what's the benefit of Azure SLA?

TWO. And if we do so, the role would have external connectivity at least 99.95% of the time.





## 19) What are instance sizes of Azure?

Windows Azure will handle the load balancing for all of the instances that are created. The VM sizes are as follows:

Compute Instance Size	CPU	Memory	Instance Storage	I/O Performance
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Extra Small	1.0 Ghz	768 MB	20 GB	Low
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Small	1.6 GHz	1.75 GB	225 GB	Moderate
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Medium	2 x 1.6 GHz	3.5 GB	490 GB	High
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Large	4 x 1.6 GHz	7 GB	1,000 GB	High
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Extra large	8 x 1.6 GHz	14 GB	2,040 GB	High
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## 20) What is Azure Fabric Controller?

The Windows Azure Fabric Controller is a resource provisioning and management layer that manages the hardware, and provides resource allocation, deployment/upgrade, and management for cloud services on the Windows Azure platform.

## 21) What is purpose of cloud service configuration file (.cscfg)?

Every cloud service type of project contains .cscfg file and primarily is used for storing –

- Number of role instances to deploy for each role in cloud service project
- Thumbprint of certificates used if any
- And most important, User defined configuration settings

The primary aim or purpose of this file is to allow configuration changes in production environment without downtime of your application.



## 22) What are the benefits, advantages of cloud computing?

- Scalability
- Agility
- High Availability
- Pay as you go
- Moving from Capex to Opex
- Fault Tolerance
- High Response Time
- High Bandwidth
- Low Latency





## 23) What is the way to implement Caching/Session Management mechanism in Azure?

Azure Redis Cache is the most commonly used Caching mechanism available as Platform as a Service (PaaS) in Azure





## 24) What is the concept of the table in Windows Azure?

Table is a one type of Azure Storage, where you can store your data as storage. Blobs are stored in container and Entity in table.

Following are the key concepts in table.

- Tables allow structure data storage
- There can be 0..n tables in a storage account
- Table store data as a collection of entities
- Entity have a primary key and properties as key value pair





## 25) What is SQL Azure Database?

SQL Azure database is simply a way to get connected in Cloud Services where we can store our database into Cloud. Microsoft SQL Services and Microsoft SQL Data Services are now known as Microsoft SQL Azure and SQL Azure Database.

Microsoft Azure is the best way to use **PAAS (Platform as a Service)** where we can host multiple databases on the same Account.

## 26) What are SQL Azure firewall rules?

SQL Azure firewall rules are provided to protect the data and to prevent access restrictions to the SQL Azure database. Firewall grants access to the originating IP's from which we are trying to access the Database.



## 27) How can you manage SQL Azure security?

SQL Azure also has a security management system very similar to the SQL on-premises versions. It basically consists of the following:

**Logins:** Server level.

**Users:** Database level, mapped to server logins.

**Schemas:** Database level, authorized/owned by a user or another schema.

**Roles:** Database level, authorized/owned by a user or another role.

**Permissions:** Database level, permission like SELECT, DELETE, ALTER and so on for objects/schemas granted to users/roles.

## 28) What are the different types of databases in SQL Azure?

- Web Edition
- Business Edition





## 29) What is TFS build system in Azure?

A Build is nothing but the output of a solution. In the case of Azure projects, you generally get the file with a **.cspkg** extension that means a Cloud Service Package is used for the deployment of your cloud services.





## 30) What is the Azure App Service?

Azure App Service is a fully managed Platform as a Service (PaaS) offering for professional developers that brings a rich set of capabilities to web, mobile and integration scenarios.

## 31) What is the VM (Role) and VM (Pass)?

VM role is a kind of role in the Azure platform which helps to maintain service packs, patches, updates and applications already installed, to Windows Azure automatically.

**VM (IaaS):** These are literally VMs as we understood then from the On-Premise running in the Azure Microsoft Data Center.





## 32) What is profiling in Azure?

Profiling is nothing but a process of measuring the performance analysis of an application. It is usually done to ensure that the application is stable enough and can sustain heavy traffic.

## 33) What is Cmdlet in Azure?

A cmdlet is a compiled piece of .NET code. A **cmdlet** is a lightweight command that is used in the Microsoft PowerShell environment.





## 34) What is Azure Explorer?

Azure Explorer is a free Microsoft Azure storage tool; in this we can manage all our Microsoft Azure blobs at a common place or one place. Azure Storage Explorer is a useful GUI tool for inspecting and altering the data.





## 35) What is Windows Azure Scheduler?

Windows Azure Scheduler allow you to invoke actions – such as calling HTTP/S endpoints or posting a message to a storage queue on any schedule. With Scheduler, you create jobs in the cloud that reliably call services both inside and outside of Windows Azure and run those jobs on demand, on a regularly recurring schedule, or designate them for a future date.

Scheduling is the history details of your apps in the cloud; it gives information of the particular application, means its status, its start time and its end time.





## 36) What is Azure Mobile Service?

Microsoft Azure Mobile Service gives you the power to create a cloud service mobile application. This will make your work more flexible and gives your application more portability in an efficient way



## 37) What is the Migration Assistant tool in Azure Websites?

The migration Assistant tool will help to analyze your IIS installation and identify which sites can be migrated to the cloud, highlighting any elements which cannot be migrated or are unsupported on the platform.





## 38) What is AutoScaling?

Scaling by adding additional instances is often referred to as scaling out. Windows Azure also supports scaling up by using larger role instances instead of more role instances.

By adding and removing role instances to your Windows Azure application while it is running, you can balance the performance of the application against its running costs.

An autoscaling solution reduces the amount of manual work involved in dynamically scaling an application.

## 39) What is link a resource?

To show your cloud service's dependencies on other resources, such as an Azure SQL Database instance, you can "link" the resource to the cloud service.



## 40) What problem does Windows Azure solve?

The upfront cost can be solved if we can get a provider who can host a shared service which provides shared server hardware, shared software license cost and can provide pay per use bandwidth.

The provider can maintain a team of IT personnel's who can maintain the infrastructure. If the provider services not one but many organization using this shared service it can bring down the cost considerably.

## 41) Where does our application run?

Application run on the fabric nodes and each application gets its own virtual space resource





## 42) How Azure services are managed?

Using the azure management portal <http://portal.azure.com>

## 43) What are the main types of storage in Azure storage?

- blobs
- tables
- queues
- files





## 44) What is a fan-out query?

Fan-out is a technique for querying data in your federation, across many federation members. Fan-out queries are much like map/reduce in that it is formed in 2 parts;

**Member query** is the piece that is sent over to all members involved in the query and

**Summary query** is the query that is the post processing piece to allow condensing the results from the member query to desired final result-set.

## 45) What are Storage options available in Azure?

There are two storage options:

SQL Azure  
Azure Storage





## 46) How can you categorizes Azure services?

Azure services are classified into into 11 types:

- Compute
- Web and mobile
- Data storage
- Analytics Networking
- Media and content delivery network (CDN)
- Hybrid integration
- Identity and access management (IAM)
- Internet of Things (IoT)
- Development Management and security





## 47) What is SQL Azure?

SQL Azure is a cloud database based on the SQL Server relational database. Data is stored in Microsoft Data Centers





## 48) What is Azure Table Storage?

Azure Table Storage is a service that stores structured data. You can have any number of tables in a single storage account. Storing data in table storage is useful for storing structured data and is cheaper than SQL database. It can store TB's of data.

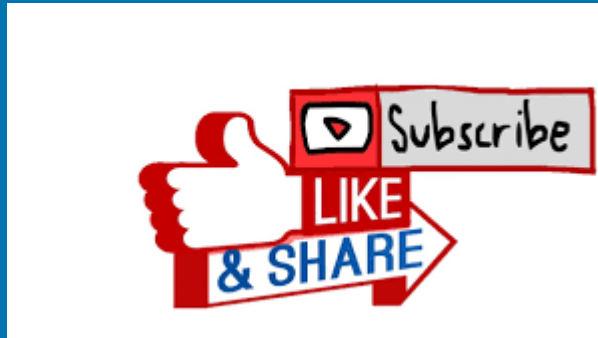
## 49) What is Azure Queue storage?

Azure Queue storage provides messaging between different applications. Applications can be running on cloud or on premises.



## 50) Optimize Azure SQL Performance?

1. Tune your queries
2. Use elastic pools
3. Manage your groups
4. Monitor your indexing
5. Understand your connections- If there are any unused connections that are bogging down your Azure SQL workloads.





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