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[Microsoft Azure Interview Questions](#)

Microsoft Azure has made quite a technological breakthrough, and now it finds applications in many businesses as well as private as well as public service providers. Here are a few **Azure Interview questions**, which might be asked during an Azure interview:

Q1. [What is Microsoft Azure?](#)

The companies, which provide the cloud services to businesses, are called Cloud Providers, and one of them is Microsoft Azure. Microsoft Azure is an expanding cloud computing service created by Microsoft for testing, building, managing, and deploying applications and services via a global network of data centers managed by Microsoft. It is basically and widely used for accessing Microsoft's infrastructure for the cloud by businesses.

Q2. [What is the Windows Azure portal?](#)

The developers, who have a hosting account, can use a Windows Azure portal to submit applications to Windows Azure. A developer can easily access the Windows Azure portal through the Web browser, by signing in with a Windows Live ID to run an application.

Q3. [What are the roles, which are implemented in Windows Azure?](#)

Roles are simply servers in layman terms. They are managed and load balanced platforms like service virtual machines, which work together to achieve a common goal. There are three roles, which are implemented in Windows Azure:

- **Web Role:** It gives a web solution that is completely front-end. This is similar to an ASP.NET application. When it is enabled, Azure gives IIS and required services.
- **Worker Role:** It gives us solutions to all background service. It can easily run long activities as well.
- **Virtual Machine Role:** The virtual machines execute the roles of both, web and worker. The Virtual Machine Roles gives the consumer the ability to modify the virtual machine on which the web and worker roles are running.

Q4. [What is the distinction between Windows Azure Service Bus Queues and Windows Azure Queues?](#)

Azure Queues provides the user with a solid, diligent messaging between and within the services. It also highlights quite a straightforward rest-based get/peek/put interface. The Azure Storage Queues make use of the local Azure Storage Emulator and debugging is made quite easy. The tooling for Azure Storage Queues allows you to easily peek at the top 32 messages and if the messages are in XML or JSON, one can visualize their contents directly from Visual Studio. Moreover, these queues can be purged of their contents, which is especially useful during development and QA efforts.

On the other hand, Bus Queues are part of a more far-reaching Windows Azure messaging framework, which supports queuing. As a rule, Azure Service Bus Queues can delete themselves after a configurable amount of idle time. This feature is very practical when you create Queues for each user because if a user hasn't interacted with a Queue for the past month, it automatically gets clean it up. It is also a great way to reduce costs. However, these Queues are limited to a maximum of 80 GB. Once the user has reached this limit, his or her application will start receiving exceptions.

Q5. What is virtual machine scale sets in Windows Azure?

Virtual machine scale sets are Azure compute resources, which can be used to deploy as well as manage a set of identical VMs. When all the VMs are configured in the same way, scale sets are automatically designed to support true auto-scale, and no pre-provisioning or prearrangement of VMs is required. That is why it is easier to build large-scale services, which target big compute, big data, and containerized workloads.

Q6. What is the Azure Fabric?

The Azure fabric is the main core concept over here. It provides a service called the Azure Fabric Controller. It is called an operating system for the Azure. Because it handles or manages the following:

- All roles (computing) and resources.
- Deployment and activating services.
- Health monitoring for all services.
- Allocating, releasing of resources.
- Provisioning VM, terminating, etc.
- Updating patches for installed OS on Virtual Machine automatically.

In this case, it is generally better to have two instances of roles, and there is no need for the customer to worry about software updates for the user.

Q7. What are the three main components of the Windows Azure Platform?

Windows Azure provides platform and infrastructure by providing accessible and cost-effective computing, storage, and networking resources on demand.

The Windows Azure has three main components in Azure, namely compute, storage and fabric.

Windows Azure Compute

Windows Azure provides a hosting environment for managed code. It provides a computation service through roles. Windows Azure supports three types of roles:

- Web roles used for web application programming and supported by IIS7.
- Worker roles are also used for background processing of web roles.
- Virtual Machine (VM) roles are generally used for migrating windows server applications to Windows Azure in an easy way.

Windows Azure Storage

Windows Azure provides storage in the cloud. It provides four different types of storage services:

- Queues for messaging between web roles and worker roles.
- Tables for storing structural data.
- BLOBs (Binary Large Objects) to store text, files or large data.
- Windows Azure Drives (VHD) to mount a page blob. They can easily be downloaded and uploaded via blobs.

Windows Azure AppFabric

AppFabric provides infrastructure services for developing, deploying and managing Windows Azure application. It provides five services:

- Service bus
- Access
- Caching
- Integration
- Composite

Q8. What do you understand by Hybrid Cloud? Explain its advantages.

A hybrid cloud is a mixture of internal and external cloud services, a combination of a private cloud combined with the use of public cloud services. This type of cloud is most suitable when you want to keep the confidential data in your premise (private cloud) and consume the other services from a public cloud.

Advantages of Hybrid Cloud:

- **Scalability:** Usually the Private Cloud services will have a lesser scalability due to its security, cost and compliance whereas the Public Cloud has a high scalability and moving non-sensitive data from the private to the public will free up resources in the data centers in the Private Cloud and that increases a very high scalability for a Hybrid Cloud.
- **Cost-effectiveness:** Similarly the Public Cloud is very cost effective rather than Private Cloud, and here the Hybrid Cloud provides cost effectiveness with the data and other sensitive operations secured.
- **Security:** Since there is a Private Cloud used; the data and sensitive operations are secured highly in the

Hybrid Cloud.

- **Flexibility:** We can easily move out of the non-sensitive data and manage large scalability using a Public Cloud service along with the Private Cloud. So with the availability of large scalability using Public Cloud and security using Private Cloud an enterprise has a vast opportunity in developing for new needs.

Q9. Explain what is Diagnostics in Windows Azure?

Windows Azure Diagnostics provides facility to store diagnostics data. Some diagnostics data is stored in a table, while some are stored in a blob. For collecting the data on diagnostics, the user must initialize the Windows Azure diagnostic monitor. The Windows Azure diagnostic monitor runs in Windows Azure as well as in the computer's emulator and collects diagnostic data for a role instance.

Q10. What is the method for creating a Queue in storage account?

The queue is a one-type of Azure Storage, where a user can store your data as storage. Blobs are stored in a container, Entity in table and Message in Queue.

Listed below are the key concepts in the queue.

- FIFO implementation
- Messages are added to end of the Queue and processed from the front
- Queues provides a good way of the Front end and Back end decoupling

Q11. What are Storage keys in Azure?

Storage keys, which are also known as Access Keys, are used as an authentication mode for accessing the storage services account to manipulate information based on our requirements. In Windows Azure, the users have an option to provide a Primary Access Key and a Secondary Access Key, even though it is likely that they will use a single access key to authenticate their application to the storage.

Q12. Why do we need storage keys?

If a user needs to change the application access key by regenerating the access key, it takes much time to take effect; this provides a downtime. To avoid such types of situations, a secondary access key is provided so that if the primary needs to be changed or regenerated, we can map the secondary temporarily to the storage and regenerate the primary.

Q13. Explain the concept of the table in Windows Azure.

A table is a type of Azure Storage, where one can store the data as memory storage. Blobs are stored in container and Entity in the table.

The key concepts in the table are explained below:

- 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 a key value pair

Q14. Explain what is Federation in SQL Azure?

Federation is introduced in SQL Azure for scalability. It helps administrators by making repartitioning and redistributing of data easier and thus, helps with scaling data. It helps developers in the routing layer and the sharding of data. It helps in routing without application downtime. Federation does basic scaling of objects in a SQL Azure Database. Federations are the partitioned data. There can be multiple Federations within a database. Moreover, each Federation represents a different distribution scheme. We create a Federation with a different distribution scheme and requirement. Student and Grade's tables of a School Database may have a different distribution requirement, so they are put into different Federations.

Q15. What do you know about the SQL Azure firewall rules?

The firewall checks access to the originating IPs from which a user may try to access the database. To configure the firewall, we need to configure a range of acceptable IP addresses upon which we try to connect to the SQL Azure server using the Management Portal or with the SQL Server Management Studio. All access to SQL Azure is blocked by a firewall.

By default Database created in SQL Azure is blocked by the firewall for maximized security. SQL Azure firewall rules are provided to protect the data and to prevent access restrictions to the SQL Azure database.

Q16. What is Windows Azure Traffic Manager?

The Traffic Manager allows users to control the distribution of user traffic of deployed Azure cloud services, Azure websites or any other endpoint. In this, the distribution of traffic includes Azure cloud services, Azure websites, and other endpoints. There are three different load-balancing methods provided by Azure. The Traffic Manager applies an intelligent routing policy engine to the Domain Name Service (DNS) queries on the domain names and then maps the DNS routes to the apt instances of the required applications.

Q17. List the benefits of Traffic Manager.

The Traffic Manager comes with many benefits for the user:

- **Increase Performance:** Can increase the performance of your application that includes faster page loading and better user experience. This applies to the serving of users with the hosted service closest to them.
- **High Availability:** You can use the Traffic Manager to improve application availability by enabling automatic customer traffic fail-over scenarios in the event of issues with one of your application instances.
- **No Downtime Required for Upgrade / Maintenance:** Once you have configured the Traffic Manager, you don't need downtime for application maintenance, patch purgation or complete new package deployment.
- **Quick Setup:** It's very easy to configure Azure Traffic Manager on Windows Azure portal. If you have already hosted your application on Windows Azure (a cloud service, Azure website), you can easily configure this Traffic Manager with a simple procedure (setting routing policy).

Q18. What is an Availability Set?

An availability set is a logical grouping of VMs that allows Azure to understand how the application for a user is built to provide redundancy and availability. It is recommended that two or more VMs be created within an availability set to provide for a highly available application and to meet the 99.95% Azure SLA. When a single VM is used with Azure Premium Storage, the Azure SLA applies for unplanned maintenance events.

Q19. Do scale sets work with Azure availability sets?

A scale set is an implicit availability set with five fault domains and five update domains. Scale sets of more than 100 VMs span multiple placement groups, which are equivalent to multiple availability sets. An availability set of VMs can exist in the same virtual network as a scale set of VMs. A common configuration is to put control node VMs (which often require unique configuration) in availability set and put data nodes in the scale set.

Q20. Explain what a break-fix issue is?

Technical problems in Azure are called break-fix issues. It is an industry term, which refers to “work involved in supporting a technology when it fails in the normal course of its function, which requires intervention by a support organization to be restored to working order.”

Q21. Where would you find a list of applications that are pre-integrated with an Azure AD and their capabilities?

The Azure AD consists of around 2600 pre-integrated applications. All pre-integrated applications support single sign-on (SSO). SSO lets you use your organizational credentials to access your apps. Some of the

applications in Azure AD also support automated de-provisioning and provisioning.

Q22. What is the Azure Redis Cache? How is it different from other Azure services?

Redis is an open source, BSD licensed in-memory data structure store, which is commonly used as a database, cache and message broker. Azure Redis Cache is also based on this. It gives you access to a secure, dedicated Redis cache, managed by Microsoft, and accessible from any application within Azure. It supports data structures such as strings, hashes, lists, sets, and sorted sets with range queries, bitmaps, hyperlog logs and geospatial indexes with radius queries.

It is different from other Azure services as unlike some of the other available services; Azure Redis Cache does not have an MSDN class library reference. This is because each client has its API that makes calls to the Redis cache instance using Redis commands. That is why there is not one centralized class reference on MSDN, and each client maintains its reference documentation.

Q23. How much storage can a user with a virtual machine use?

Each data disk on the VM can be up to 1 TB. However, the number of data disks, which you can use depends on the size of the virtual machine. Azure storage accounts can also provide storage for the operating system disk and any data disks where each disk is a .vhd file stored as a page blob.

Azure Managed Disks are the new and recommended disk storage offerings for use with Azure Virtual Machines for persistent storage of data. A user can use multiple Managed Disks with each VM. Managed Disks offer two types of durable storage options: Premium and Standard Managed Disks.

Q24. What are the expected values for the Startup File section when a user configures the runtime stack?

For configuring with Node.js, a user can specify the PM2 configuration file or your script file. In case of .NET Core, the user can specify their compiled DLL name. Moreover, in case of Ruby, one can specify the Ruby script that they want to initialize their app with.

Q25. What do you mean by the stateful and stateless micro-services for Service Fabric?

Service Fabric enables the user to build applications that comprise micro services. Stateless micro-services (like protocol gateways and web proxies) don't maintain a mutable state outside a request and its response from the service. Examples of a stateless service include Azure Cloud Services worker roles. Stateful micro-services (like user accounts, databases, devices, shopping carts, and queues) maintain a mutable, authoritative state beyond the request and its response, unlike Stateless Services. Today's Internet-scale applications comprise a combination of stateless as well as stateful micro-services.

Q26. Explain what is a VNet?

VNet is a representation of your network in the cloud. It logically isolates the instances launched in the cloud, from the rest of the resources of a user.

Q27. Explain what is Auto-Scaling in Azure?

Scaling by including extra instances is frequently referred to as scaling out. Windows Azure similarly supports scaling up by employing a bigger role instead of more role instances. By adding and expelling role instances to your Windows Azure application while it is running, you can adjust the execution of the application against its running costs. An auto-scaling solution simply diminishes the amount of manual work engaged in dynamically scaling an application.

Q28. How is a private cloud different from the public cloud?

Private clouds are those that are built solely for an individual enterprise. They enable any particular firm to have applications in the cloud while tending to concerns concerning data security and control that is frequently ailing in a public cloud environment. It is otherwise called an internal cloud or enterprise cloud and dwells on the organization's intranet or hosted data center where the data is protected. Public cloud is utilized as a service through the Internet by the users, while a private cloud, is implemented within specific limits like firewall settings and is overseen and checked by the users dealing with it in an organization.

Q29. What do you know about the Azure App Service?

Azure App Service is a completely managed Platform as a Service (PaaS) offering for proficient developers that conveys a rich arrangement of abilities to the web, mobile and integration scenarios. They offer a very adaptable, universally accessible mobile application development platform for Enterprise Developers and System Integrators that conveys a rich set of capacities to mobile engineers.

Q30. What is Azure Service Level Agreement (SLA)?

The SLA ensures that, when you send two or more role instances for each role, access to your cloud service will be maintained not less than 99.95 percent of the time. Furthermore, identification and re-correction activity will be started 99.9 percent of the time when the procedure of a role instance is not running.

Q31. What is azure databricks?

Azure Databricks is an Apache Spark-based analytics service optimized for the MS Azure cloud services platform is designed with the originators of Apache Spark. Moreover, it is associated with MS Azure for a one-click setup and an interactive working space that eases collaboration within data scientists, data engineers, and business analysts.

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