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## 1. What is cloud computing, exactly?

- The usage of servers on the internet to "store," "manage," and "process" data is what it is, explained. The difference is that you use someone else's servers to complete your assignment rather than your own, and you pay them for the time you use it.

## 2. What are the different cloud deployment models?

**Explanation:** Following are the three cloud deployment models:

- ❖ **Public Cloud:** Your cloud provider owns the infrastructure, and the server you are utilising can be a multi-tenant system.
- ❖ **Private cloud:** You own the infrastructure or your cloud provider only provides that service to you. For instance, hosting your website on your servers or using a dedicated server from the cloud provider.
- ❖ **Hybrid Cloud:** This type of cloud computing refers to the usage of both public and private clouds simultaneously. For instance, you may host your company's website for the general public on the public cloud yet store secret data on your own internal servers. A hybrid cloud would be this kind of configuration.

## 3. I have some private servers on my premises, also I have distributed some of my workload on the public cloud, what is this architecture called?

- A.** Virtual Private Network
- B.** Private Cloud
- C.** Virtual Private Cloud
- D.** Hybrid Cloud

**Answer: D. Hybrid Cloud**

- ❖ **Justification:** A hybrid cloud would be built using this style of architecture. Why? because we use both on-premises servers, or the private cloud, and the public cloud. Wouldn't it be better if your private and public clouds were all on the same network to make this hybrid architecture easier to use? (virtually). This is accomplished by adding your public cloud servers to a virtual private cloud and establishing a VPN connection between the cloud and your on-premises systems (Virtual Private Network).
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#### 4. What is Microsoft Azure and why is it used?

**Explanation:** As was previously said, firms that offer cloud services are referred to as cloud providers. There are many different cloud service providers, and Microsoft Azure is one of them. It is utilised to access Microsoft's cloud infrastructure.

#### 5. Which service in Azure is used to manage resources in Azure?

- A. Application Insights
- B. Azure Resource Manager
- C. Azure Portal
- D. Log Analytics

**Answer: B Azure Resource Manager**

**Explanation:** Infrastructures that contain a number of Azure services are "managed" by Azure Resource Manager. Using a straightforward JSON script, it can be used to deploy, manage, and delete all of the resources simultaneously.

#### 6. Which of the following web applications can be deployed with Azure?

- A. ASP.NET
- B. PHP
- C. WCF
- D. All of the mentioned

**Answer: D All of the mentioned**

**Explanation:** Microsoft has also made available SDKs for Java and Ruby, enabling programmes built in those languages to utilise the AppFabric Service's Azure Service Platform API.

#### 7. What are Roles and why do we use them?

**Explanation:** In simple words, roles are just servers. These servers are controlled Platform as a Service virtual machines with load balancing that cooperate to accomplish a common objective.

Microsoft Azure offers three different kinds of roles:

- ❖ Web Role
- ❖ Worker Role
- ❖ VM Role

Let's discuss each of these roles in detail:

- ❖ **Web Role:** A web role is essentially used to launch websites utilising IIS platform-compatible languages like PHP, .NET, etc. It has been set up and adapted to run web applications.
- ❖ **Worker Role:** In contrast to the Web Role, which is used to deploy the website, a worker role is more of a support function for the Web Role. It is used to carry out background tasks.
- ❖ **VM Role:** A user can schedule jobs and other Windows services using the VM role. This role can be used to modify the computers running the worker and web roles.

**8. A \_\_\_\_\_ role is a virtual machine instance running Microsoft IIS Web server that can accept and respond to HTTP or HTTPS requests.**

- A.** Web
- B.** Server
- C.** Worker
- D.** Client

**Answer: A. Web**

- ❖ **Explanation:** There are no roles like server or client roles, hence the correct response should be web roles. Additionally, worker roles can only connect directly to clients or Azure Storage.
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**9. Is it possible to create a Virtual Machine using Azure Resource Manager in a Virtual Network that was created using classic deployment?**

**Reason:** This is not backed up. A virtual machine that was established using classic deployment cannot be added to a virtual network using Azure Resource Manager.

**10. What are virtual machine scale sets in Azure?**

**Explanation:** 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.

**11. Are data disks supported within scale sets?**

The answer is yes. Every VM in a scale set can have a defined associated data disc configuration. Other possibilities for data storage include:

- ❖ Azure files (SMB shared drives)
- ❖ OS drive
- ❖ Temp drive (local, not backed by Azure Storage)
- ❖ Azure data service (for example, Azure tables, Azure blobs)
- ❖ External data service (for example, remote database)

## 12. What is an Availability Set?

- ❖ An availability set is a logical collection of virtual machines that enables Azure to comprehend how your application is designed to offer redundancy and availability. To support a highly available application and adhere to the 99.95% Azure SLA, it is advised that two or more VMs be established within an availability set. For unplanned maintenance events when a single VM is used with Azure Premium Storage, the Azure SLA is in effect.
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## 13. What are Fault Domains?

A fault domain is a logical collection of underlying hardware that shares a single network switch and power source, much like a rack in an on-premise data centre. The Azure platform automatically distributes your VMs among various fault domains as you construct them inside an availability set. This strategy reduces the effects of potential hardware malfunctions, network failures, or power outages.

## 14. What are Update Domains?

An update domain is a logical collection of underlying hardware that can reboot or undergo maintenance simultaneously. The Azure platform automatically distributes your virtual machines among these update domains when you construct them within an availability set. With this strategy, you can be sure that while the Azure platform is undergoing routine maintenance, at least one instance of your application will always be active. During planned maintenance, the restart order of the update domains may not be sequential, but only one update domain is rebooted at once.

## 15. What are Network Security Groups?

**Explanation:** Network traffic to subnets, NICs, or both can be allowed or denied by means of a list of Access Control List (ACL) rules contained in a network security group (NSG). NSGs can be attached to specific NICs connected to a subnet or subnetworks as a whole. All of the VMs in a subnet that has an NSG attached are subject to the ACL restrictions. Additionally, by directly linking an NSG to a NIC, traffic to a certain NIC can be constrained.

## 16. Can Azure availability sets be used with scale sets?

The answer is yes. An implicit availability set with 5 fault domains and 5 update domains is known as a scale set. More than 100 VMs in a scale set will typically span numerous placement groups, which are analogous to multiple availability sets. The same virtual network may house both a scale set and an availability set of virtual machines. The placement of control node VMs, which frequently require special configuration, in an availability set and data nodes in the scale set is a typical configuration.

## 17. What is a break-fix issue?

**Explanation:** Technical problems are called break-fix issue, 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”.

## 18. Why is Azure Active Directory used?

**Explanation:** 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.

## 19. What happens when you exhaust the maximum failed attempts for authenticating yourself via Azure AD?

Why? We lock accounts using a more advanced method. Based on the request's IP address and the passwords entered, this is done. Based on how likely an attack is, the length of the lockout also lengthens.

## 20. Where can I find a list of applications that are pre-integrated with Azure AD and their capabilities?

- ❖ **Explanation:** There are around 2600 pre-integrated applications in Azure AD. Single sign-on is supported by all pre-integrated applications (SSO). SSO enables you to access your apps using your organisational credentials. Additionally, automatic provisioning and de-provisioning are supported by a few of the applications.
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## 21. How can I use applications with Azure AD that I'm using on-premises?

**Justification:** Azure AD provides a quick and safe way for you to connect to the web applications of your choice. Without the need for a VPN or changing your network architecture, you can access these applications in the same way that you access your SaaS apps in Azure AD.

## 22. What is Azure Service Fabric?

**Justification:** Azure A distributed systems framework called Service Fabric makes it simple to bundle, deploy, and manage scalable and dependable micro-services. Additionally, Service Fabric overcomes the fundamental difficulties in creating and overseeing cloud applications.

Developers and administrators may concentrate on designing mission-critical, demanding workloads that are scalable, dependable, and manageable instead of dealing with complex infrastructure issues. The next-generation middleware platform for creating and overseeing these enterprise-class, tier-1, cloud-scale applications is called Service Fabric.

## 23. What is a VNet?

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

## 24. What are the differences between Subscription Administrator and Directory Administrator?

- ❖ **Reason:** When registering for Azure, a user is automatically given the Subscription Administrator position. An Azure subscription administrator can log in with either a Microsoft account or a work or school account from that directory. The management of services in the Azure portal is permitted for this role. You can add people as co-admins if they need to log in and use the same subscription to access services.
- ❖ In order to administer the directory- and identity-related functionalities, Azure AD offers a diverse set of admin roles. The Azure portal or the Azure classic portal's numerous capabilities will be accessible to these administrators. What an admin can do, such as create or update users, delegate administrative rights to others, reset user passwords, manage user licences, or administer domains, depends on their job.

## 25. Are there any scale limitations for customers using managed disks?

**Reason:** The storage account limitations are removed by Managed Disks. However, there is a default cap of 2000 managed discs per subscription.

## 26. What is the difference between Service Bus Queues and Storage Queues?

- ❖ The Azure Storage Queue is straightforward, and the developer experience is generally positive. The Azure Storage Emulator is used locally, and debugging is simple. You can quickly view the top 32 messages in Azure Storage Queues thanks to the tooling, and if the messages are in XML or Json, you can view their contents right from Visual Studio. Additionally, these queues can be cleaned of their contents, which is particularly helpful for QA and development tasks.
- ❖ The Azure Service Bus Queues are sophisticated and supported by numerous practical methods, making them enterprise-worthy. They can forward messages to other Queues and Topics because they are a part of the Service Bus. Because they include a built-in dead-letter queue and a time limit that you set, mails are not immediately deleted after seven days.



- ❖ Additionally, Azure Service Bus Queues have the option to automatically delete themselves after a defined period of inactivity. When you build Queues for each user, this function is incredibly useful because it automatically cleans up Queues for users who haven't engaged with them in the last month. It's also a fantastic strategy to reduce expenditures. Paying for storage that you don't need shouldn't be necessary. The maximum size of these queues is 80 GB. Once you've hit this cap, exceptions will start coming into your application.

## 27. What is Azure Redis Cache?

- ❖ Redis is an open source (BSD licensed), in-memory data structure store, used as a database, cache and message broker. Azure Redis Cache is based on the popular open-source Redis cache. 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, sorted sets with range queries, bitmaps, hyperloglogs and geospatial indexes with radius queries.
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## 28. Why doesn't Azure Redis Cache have an MSDN class library reference like some of the other Azure services?

- ❖ **Justification:** Based on the well-known open source Redis Cache, Microsoft Azure Redis Cache may be accessed by a wide range of Redis clients for numerous programming languages. Each client has a unique API that uses Redis commands to call the Redis cache instance.
- ❖ Each client maintains its own reference documentation because there isn't a single centralised class reference on MSDN due to the differences between each client. There are a number of tutorials that demonstrate how to get started using Azure Redis Cache with a variety of languages and cache clients in addition to the reference documentation. Visit [How to utilise Azure Redis Cache](#) and select your preferred language from the language switcher at the top of the page to access these tutorials.

## 29. What are Redis databases?

Redis databases are simply a logical division of data within a single Redis instance, as explained. The shared cache memory is used by all databases, and the amount of memory actually used by a particular database depends on the keys and values that are kept there. A C6 cache, for instance, contains 53 GB of memory. You have the option of distributing the 53 GB across different databases or putting it all in one database.

## 30. Is it possible to add an existing VM to an availability set?

**Explanation:** No. If you want your VM to be part of an availability set, you need to create the VM within the set. There currently no way to add a VM to an availability set after it has been created.

### 31. What are the username requirements when creating a VM?

**Explanation:** Usernames can be a maximum of 20 characters in length and cannot end in a period (“.”).

The following usernames are not allowed:

administrator	admin	user	user1
test	user2	test1	user3
admin1	1	123	a
actuser	adm	admin2	aspnet
backup	console	david	guest
john	owner	root	server
sql	support	support_388945a0	sys
test2	test3	user4	user5

### 32. What are the password requirements when creating a VM?

- ❖ Explanation: Passwords must be 12 – 123 characters in length and meet 3 out of the following 4 complexity requirements:
- ❖ Have lower characters
- ❖ Have upper characters
- ❖ Have a digit
- ❖ Have a special character (Regex match [W\_])

The following passwords are not allowed:

abc@123	P@\$Sw0rd	P@ssw0rd	P@ssword123	Pa\$\$word
pass@word1	Password!	Password1	Password22	iloveyou!

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### 33. How much storage can I use with a virtual machine?

- ❖ The new and highly recommended disc storage option for use with Azure Virtual Machines is called Azure Managed Disks. Each Virtual Machine can use a different Managed Disk. The two distinct categories of managed discs that provide persistent storage are premium and standard managed discs.
- ❖ Storage space for the operating system disc and any other data discs is also available via Azure storage accounts. Each disc is a page-blob-stored.vhd file.

### 34. How can one create a Virtual Machine in Powershell?

```
# Define a credential object

$cred = Get-Credential

# Create a virtual machine configuration

$vmConfig = New-AzureRmVMConfig -VMName myVM -VMSize Standard_DS2 |
` Set-AzureRmVMOperatingSystem -Windows -ComputerName myVM -Credential $cred |
` Set-AzureRmVMSourceImage -PublisherName MicrosoftWindowsServer -Offer WindowsServer `
-Skus 2016-Datacenter -Version latest | Add-AzureRmVMNetworkInterface -Id $nic.Id
```

### 35. How to create a Network Security Group and a Network Security Group Rule?

```
❖ # Create an inbound network security group rule for port 3389

$nsgruleRDP = New-AzureRmNetworkSecurityRuleConfig -Name myNetworkSecurityGroupRuleRDP -
Protocol Tcp `

-Direction Inbound -Priority 1000 -SourceAddressPrefix * -SourcePortRange * -DestinationAddressPrefix
* `

-DestinationPortRange 3389 -Access Allow

❖ # Create an inbound network security group rule for port 80

$nsgruleWeb = New-AzureRmNetworkSecurityRuleConfig -Name myNetworkSecurityGroupRuleWWW -
Protocol Tcp `

-Direction Inbound -Priority 1001 -SourceAddressPrefix * -SourcePortRange * -DestinationAddressPrefix
* `

-DestinationPortRange 80 -Access Allow

❖ # Create a network security group

$nsrg = New-AzureRmNetworkSecurityGroup -ResourceGroupName myResourceGroup -Location EastUS `
-Name myNetworkSecurityGroup -SecurityRules $nsgruleRDP,$nsgruleWeb
```

### 36. How to create a new storage account and container using Power Shell?

```
$storageName = "st" + (Get-Random)
```

```
New-AzureRmStorageAccount -ResourceGroupName "myResourceGroup" -AccountName $storageName -  
Location "West US" -SkuName "Standard_LRS" -Kind Storage
```

```
$accountKey = (Get-AzureRmStorageAccountKey -ResourceGroupName myResourceGroup -Name  
$storageName).Value[0]
```

```
$context = New-AzureStorageContext -StorageAccountName $storageName -StorageAccountKey  
$accountKey
```

```
New-AzureStorageContainer -Name "templates" -Context $context -Permission Container
```

### 37. How can one create a VM in Azure CLI?

```
az vm create --resource-group myResourceGroup --name myVM --image win2016datacenter --admin-  
username azureuser --admin-password myPassword12
```

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### 38. How can you retrieve the state of a particular VM?

```
Get-AzureRmVM`
```

```
-ResourceGroupName myResourceGroup`
```

```
-Name myVM`
```

```
-Status | Select @{n="Status"; e={$_.Statuses[1].Code}}
```

### 39. How can you stop a VM using Power Shell?

```
Stop-AzureRmVM -ResourceGroupName myResourceGroupVM -Name "myVM" -Force
```

### 40. Why was my client disconnected from the cache?

**Explanation:** The following are some common reason for a cache disconnect.

#### Client-side causes

- ❖ The client application was redeployed.



- ❖ The client application performed a scaling operation.
- ❖ In the case of Cloud Services or Web Apps, this may be due to auto-scaling.
- ❖ The networking layer on the client side changed.
- ❖ Transient errors occurred in the client or in the network nodes between the client and the server.
- ❖ The bandwidth threshold limits were reached.
- ❖ CPU bound operations took too long to complete.

#### problems on the server

- ❖ The Azure Redis Cache service started a fail-over from the primary node to the secondary node on the default cache offering.
- ❖ The instance where the cache was deployed was being patched by Azure.
- ❖ This could be done for routine VM maintenance or Redis server updates.

### 41. What is Azure Search?

**Reason:** Azure Search is a cloud search-as-a-service option that transfers server and infrastructure administration to Microsoft, leaving you with a ready-to-use service that you can then use to add search to your online or mobile application after populating it with your data. Using a straightforward REST API or .NET SDK, Azure Search enables you to quickly add a powerful search experience to your applications without maintaining search infrastructure or becoming an expert in search.

### 42. My web app still uses an old Docker container image after I've updated the image on Docker Hub. Does Azure support continuous integration/deployment of custom containers?

- ❖ **Justification:** It does, in fact. You can restart your web app after pausing it in order to refresh the container for private registries. To force an update of your container, you can also modify or add a dummy application configuration.
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### 43. What are the expected values for the Startup File section when I configure the runtime stack?

**Explanation:** For Node.js, you specify the PM2 configuration file or your script file. For .NET Core, specify your compiled DLL name. For Ruby, you can specify the Ruby script that you want to initialize your app with

#### 44. How are Azure Marketplace subscriptions priced?

**Explanation:** Based on the sorts of products, prices will change. Your Azure subscription will charge you separately for ISV software and Azure infrastructure fees. Pricing schemes comprise:

- ❖ Bring-your-own-license is a BYOL model. The right to access or use the offering is granted to you outside of the Azure Marketplace, and there are no payments associated with using the offering there.
- ❖ Free SKU: Free. Customers are not charged for using the service on the Azure Marketplace.
- ❖ Free Software Trial: A fully functional version of the offer that is available for a brief time for no cost as part of a promotion. During the trial time, there won't be any fees associated with using the service on the Azure Marketplace. Customers will automatically be charged for using the offering at ordinary rates after the trial time has ended.
- ❖ Usage-Based: The amount you are charged or invoiced for using the offering depends on how much you use it. You pay an Azure Marketplace price per hour for Virtual Machine Images. You are charged according to the offering's established unit of measurement for Data Services, Developer Services, and APIs.
- ❖ You are billed a set monthly cost for a membership to the offering each month (from the date of subscription start for that particular plan). For mid-month cancellations or unutilized services, the monthly charge is not reduced.

#### 45. What is the difference between “price,” “software price,” and “total price” in the cost structure for Virtual Machine offers in the Azure Marketplace?

The price of the Azure Virtual Machine needed to run the programme is referred to as the "price." The cost of the publisher software used by an Azure Virtual Machine is referred to as the "software price." "Overall price" refers to the total cost of the publisher application operating on an Azure Virtual Machine as well as the Azure Virtual Machine itself.

#### 46. What are stateful and stateless microservices for Service Fabric?

Using Service Fabric, you may create applications that are made up of microservices. Web proxies and protocol gateways are examples of stateless microservices that don't have a mutable state outside of requests and responses from the service. Worker roles in Azure Cloud Services are an illustration of a stateless service. User accounts, databases, devices, shopping carts, and queues are examples of stateful microservices that keep an authoritative, modifiable state in addition to handling requests and responses. Stateless and stateful microservices coexist in today's Internet-scale applications.

#### 47. What is the meaning of application partitions?

Hence, they are directory partitions that are replicated to domain controllers. The application partitions are a component of the Active Directory system.

Typically, domain controllers involved in directory partitioning processes maintain a duplicate of that directory partition. The benefits of application partitions include the ability to replicate them to any specific domain controller inside a forest, which could reduce replication load. While the domain directory partitions transport all of their data to all of the domains, the application partitions can only concentrate on one in the domain area. This renders application partitions unnecessary and increases their availability.

## 48. What are special Azure Regions?

**Explanation:** When developing your applications for compliance or legal reasons, you may choose to use one of Azure's unique zones. These unique areas consist of:

- ❖ US Governors Virginia and Iowa

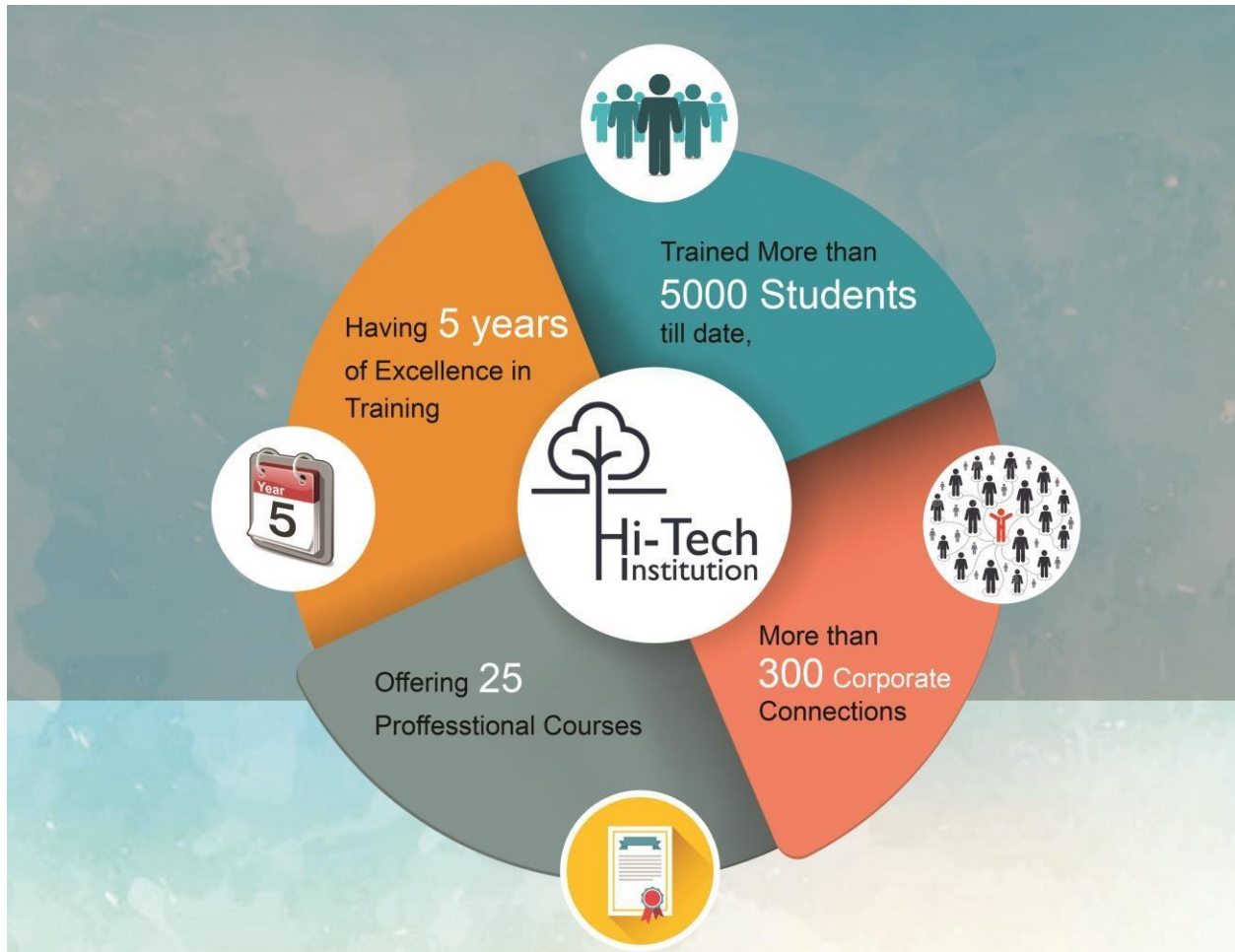
a physical and logical network-isolated Azure instance for US government partners and agencies that is run by US citizens who have undergone background checks. such as extra compliance certificates from DISA and FedRAMP.

- ❖ East China and North China

Through a special collaboration between Microsoft and 21Vianet, in which Microsoft is not directly responsible for the datacenters' upkeep, these territories are now accessible.

- ❖ Germany Germany's northeast and the centre

Through the use of a data trustee model, these regions are accessible. Customer data is kept in Germany under the management of T-Systems, a subsidiary of Deutsche Telekom, which serves as the German data trustee.



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Pondicherry – 605 005,  
Nearby Rajiv Gandhi Hospital

**TAMBARAM**

No.24, Chithi Vinayagar Kovil street,  
KamarajNagar, Tambaram Sanatorium,  
Chennai – 600 047,  
Nearby Sanatorium Railway Station

**VELACHERRY**

No: 21, Officer Colony,  
100 feet road, VijayaNagar,  
Velacherry – 600 042,  
Nearby Sathya Home Appliances

**Locations**

**Chennai & Pondicherry**