**AZ-900**

Graphical user interface, text, application

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Foundation for Cloud :

A picture containing graphical user interface

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Over 90+ Compliances Offerings

95% of fortune 500 companies trust their business on Azure

Availability 99.99%

Graphical user interface, application

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Azure Data Center is a unique physical building that contains the 1000s of Physical servers with its own power, cooling, and Networking Infrastructures.

As of Nov 2020, 160+ Data centers worldwide

Under water Data Center : Project Natick (2018), more reliable than DC on land.

Azure Geography: An area of the world that contains at least one Azure Region, some of the geographies:

Graphical user interface

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Why Geography?

* Regulated data like financial, health care, or credit card data may not be allowed to leave the country
* Microsoft will not store customer data outside the geography you specify, except for certain non-regional services

Graphical user interface, text, application, chat or text message

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Azure Regions:

Set of One or more DCs, connected through dedicated low latency networks.

58 Regions

Cross-region resiliency

Diagram

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Diagram

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<https://www.youtube.com/watch?v=C-nNw1mGwzE>

Availability Zones

Logical grouping of the DCs with low latency networks,

Diagram

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Not all regions support availability zones, minimum 3 Availability Zones is required within one region if region supports availability zones

Category of services in term of availability zones

1. Zonal Services (i.e., VM <Manual Replication>)
2. Zone-Redundant Services (i.e., Azure SQL Database <Auto Replication>)

Azure Paired Region:

Exactly two regions connected within the same geography minimum 30 0 miles separated. Cannot be chosen by user, Exception: Brazil South with South Central US

Graphical user interface

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Resource Group: Logical grouping of resources, rg-<applicationName>-<developmentEnvironment>

vertical tabs on every resource item details is “Blades”

Text, timeline

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Resources get created upon creating a new VM

Timeline

Description automatically generated

Benefits

1. Administration easy
2. Cost Analysis
3. Role based access control (Access Control (Iam))

Chart

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A picture containing timeline

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Policies and Role Based Access Control can be applied

Fault Domain & Update Domain

Diagram

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Availability Set

Timeline

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Availability Set is concept within the Data Center, this is a resource type it makes sure that VM created using this instance lie under different Fault Domain/Update Domain.

A picture containing diagram

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Graphical user interface

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Graphical user interface

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VIRTUAL MACHINE SCALE SET :

Created along with other instances:

1. Virtual Network (VNet)
2. Network Interface (NIC)
3. Load Balancer

Scale Out: Increase instances, Scale In: Decrease instances

Graphical user interface

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Which compute service to use:

Diagram

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Azure Spot Instance

Just In Time Virtual Machine

Text, timeline

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Graphical user interface, application

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Now Request from below screen

Graphical user interface, application

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Table

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Azure Web App

App Service Plan (Decides what hardware and features for Azure Web App)

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Text

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Deployment Slots:

Provide slots for dev, staging, test, prod builds

Swap Deployment slots from staging to prod and vice-versa

Graphical user interface, text

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Azure API management service