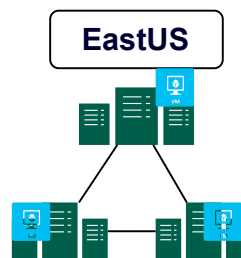D
C
C

EastUS

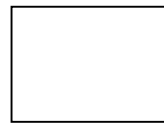**User Define**

Disk

File Sh

Local Re
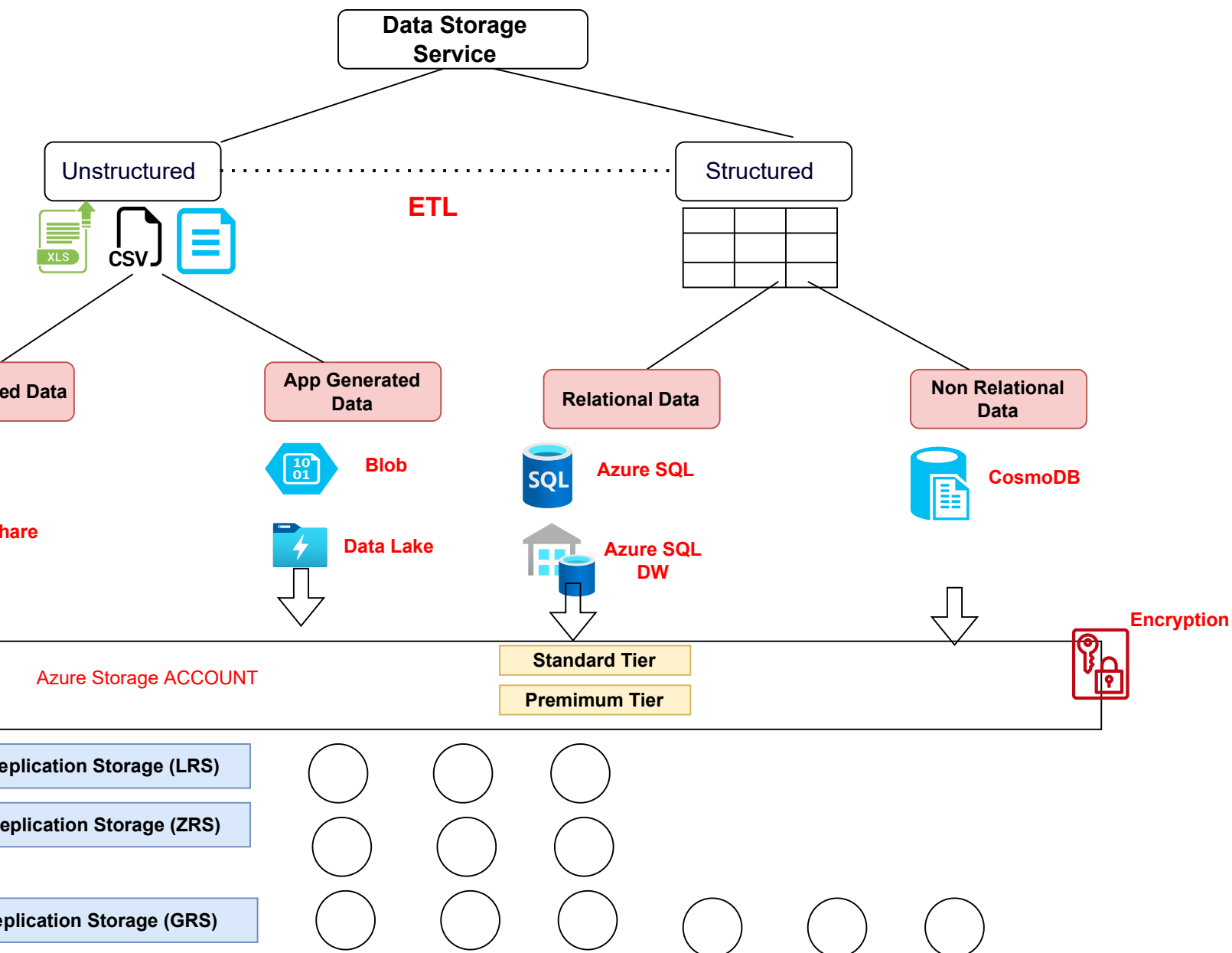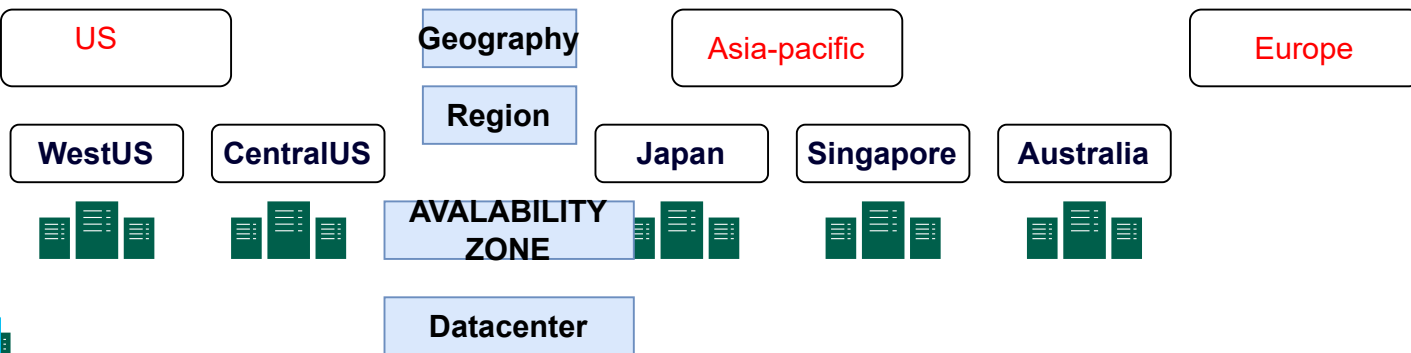
Zonal R

Geo Re

Compliance

Data of Local Citizen / Business
Can not taken out from
Country/Regions.

- **Non Earthquake Area**
- **Hydro Electricity**
- **Gov Tax/Compliance**

Company Setup Datacenter / Co-
location to host their website /
mobile app

Cloud Plateform

US

Geography

Asia-pacific

Europe

Region

WestUS

CentralUS

Japan

Singapore

Australia

AVALABILITY ZONE

Datacenter

Data Storage Service

Unstructured .... ETL .... Structured

XLS CSV

ed Data

App Generated Data

Relational Data

Non Relational Data

hare

Blob

Azure SQL

CosmoDB

Data Lake

Azure SQL DW

Encryption

Azure Storage ACCOUNT

Standard Tier

Premimum Tier

eplication Storage (LRS) ◯ ◯ ◯

eplication Storage (ZRS) ◯ ◯ ◯

eplication Storage (GRS) ◯ ◯ ◯ ◯ ◯ ◯

Relational Database

MySQL **PostGressSQL** **Oracle** **MS SQL**

PL-SQL **T-SQL**

On-Prem

Requirement to Setup in Office
- Prepare Server in Office
- Install OS
- Hardening of OS
- Install SQL Software
- Configure SQL Application
- Create Database
- Create Tables in Database

RDBMS

Win/Linux

DB Replication

RDBMS

Win/Linux

Day to Day Admin Task

Manage Server Hardware
Manage OS (Patch / Antivirus)
Manage SQL Application
Storage for your Database Data
Backup
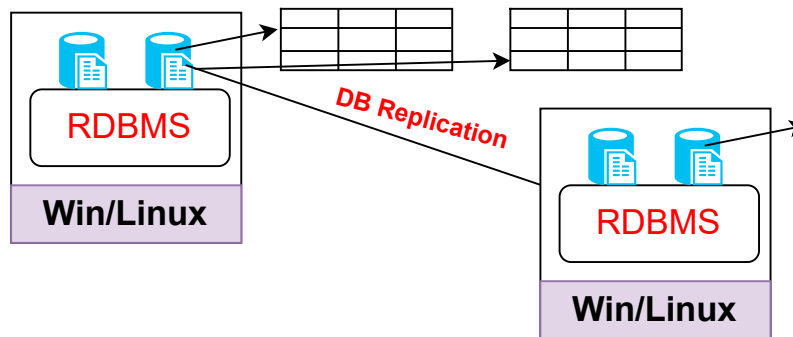
Azure SQL

Azure SQL Database

Azure SQL Managed Instance

SQL On VM

- I not Need to Manage Server/OS
- I want automated Backup
- I want Automated Performance Tuning
- I want to Audit who is doing what
- I only Database not other Features

- I not Need to Manage Server/OS
- I want automated Backup
- I want Automated Performance Tuning
- I want to Audit who is doing what
- Full Database + Other Features Like Reporting / Analysis

- I want complete control on Server/OS
- I want use my Backup schedule
- I want to Manage Performance Tuning
- I Full Database + Other Features Like Reporting / Analysysis

Azure SQL Database

SQL Fir

AD Integration

MFA
Conditional Access
Risky-Sign

User1   **10.0.0.1**

Non-US

Con

SQLUser1 **10.0.0.2**
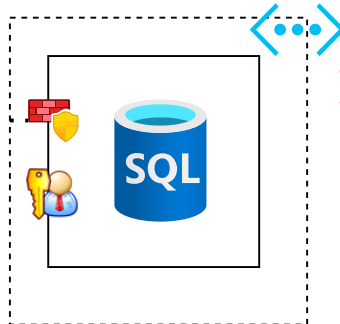
SQLUser2 **10.0.0.3**
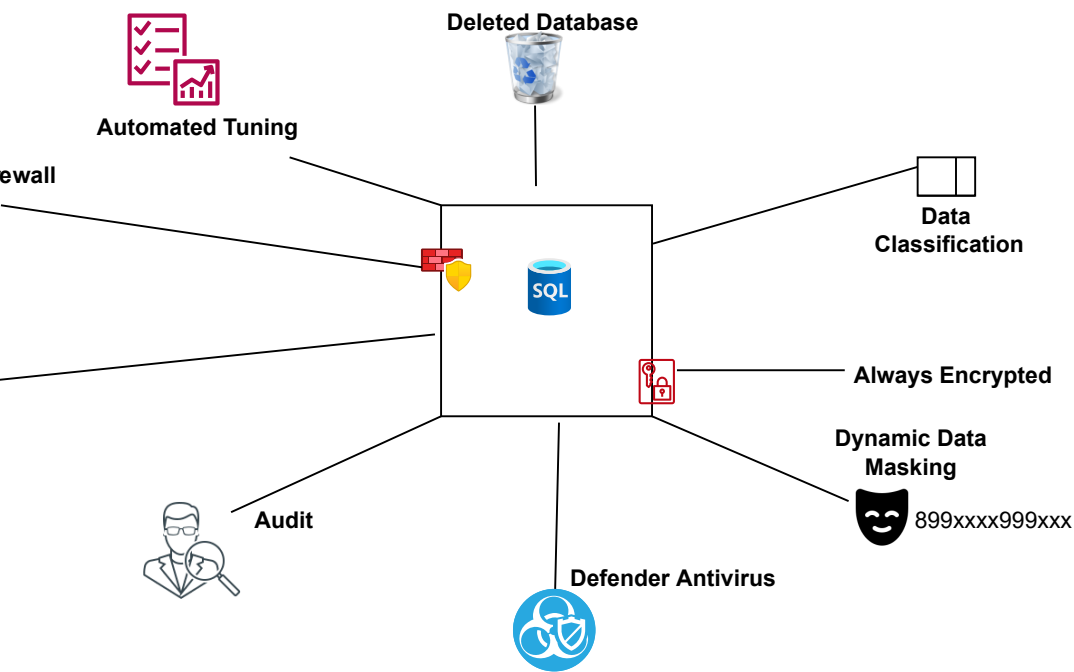
Single Database

Elastic Pool

- **No Server Provisioning**
- **No Installation**
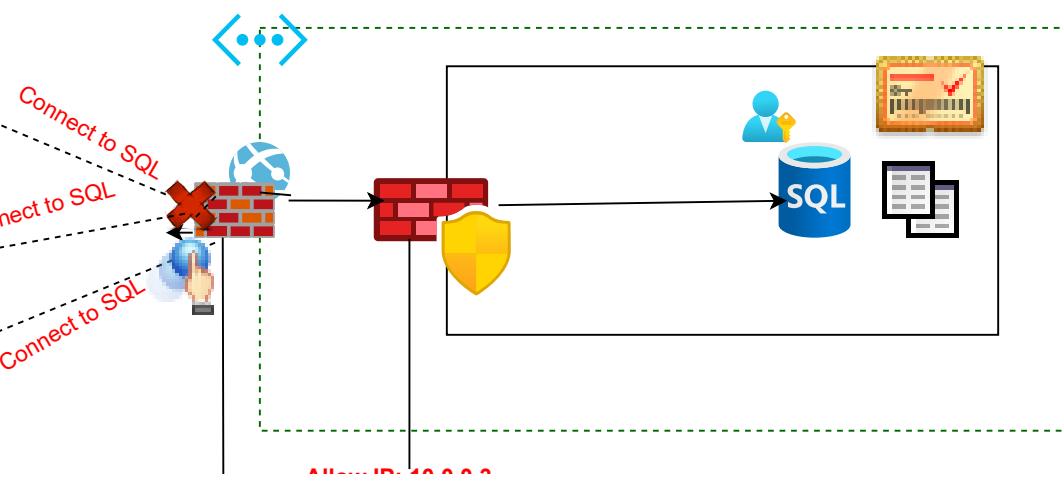- **Database can be up and running in 5 Min**

- **DDOS**
- **Firewall Integration**

1. **User Attempt to Connect to Database from Client Tool**
2. **First it will be check in the allow list of IP /Service/Protocol at Virtual netw**
   level
3. **It again going to check by SQL Firewall in its allowed List of IP**
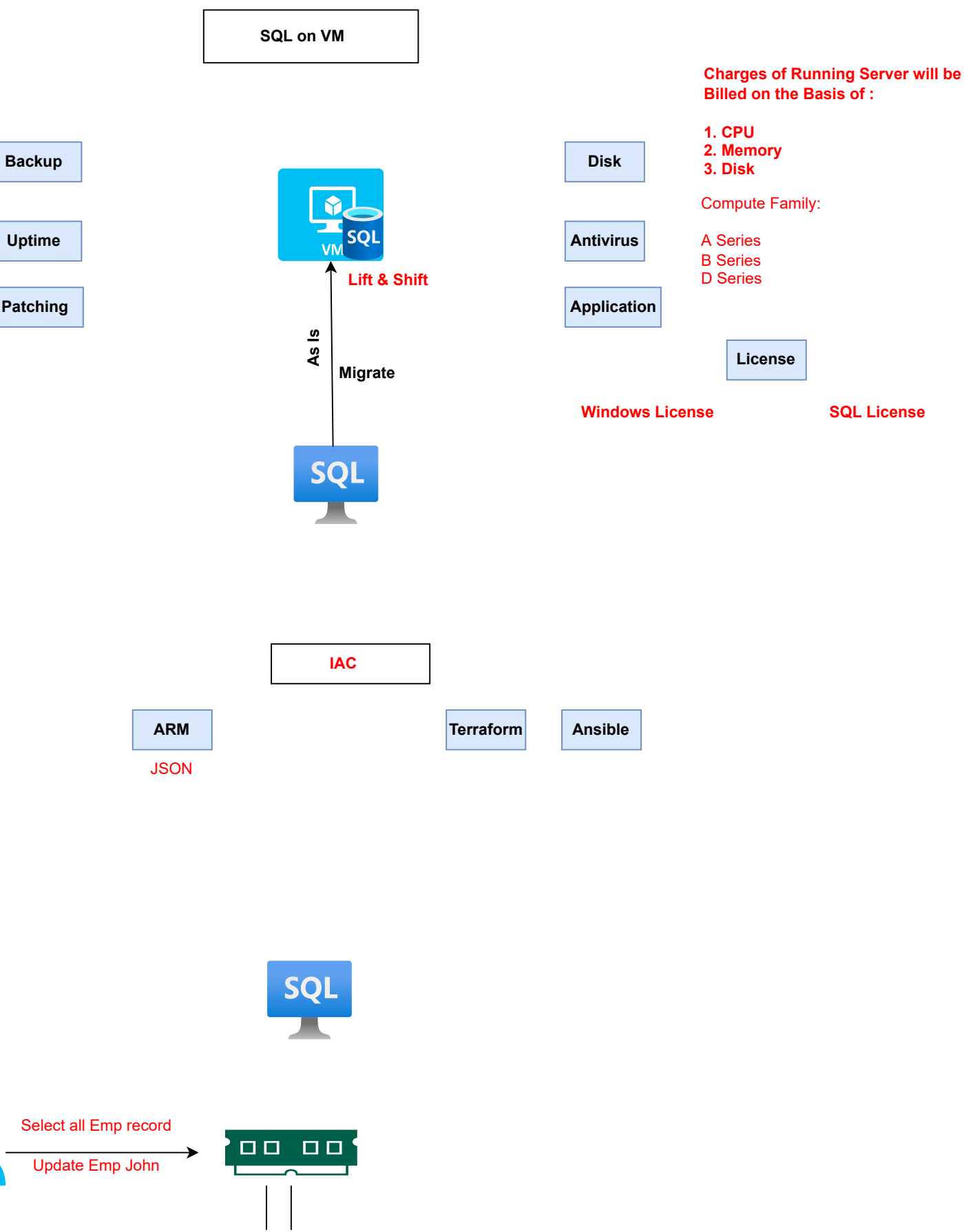4. **SQL Database Validate Username and Password**

Automated Tuning

Deleted Database

Data Classification

ewall

Always Encrypted

Dynamic Data Masking

899xxxx999xxx

Audit

Defender Antivirus

Defense in Depts

Connect to SQL

nect to SQL

Connect to SQL

SQL

Allow IP: 10.0.0.2

ork

Source IP: 10.0.0.2-10.0.0.3
Destination : SQLdemo.windows.net
Port : 1433
Location: USA

SQL on VM

Charges of Running Server will be Billed on the Basis of :

1. CPU
2. Memory
3. Disk

Compute Family:

A Series
B Series
D Series

Backup

Uptime

Patching

Disk

Antivirus

Application

License

Lift & Shift

As Is

Migrate

Windows License   SQL License

SQL

IAC

ARM

JSON

Terraform

Ansible

SQL

Select all Emp record

Update Emp John

HA Option

VM

Load in Memory

Data Located from
Database File in Disk

Database File (. MDF)

Transaction Log File
(.LDF)

Reserved Log File

HA & DR

WWW

SQL

Windows failover Cluster

SQL Availability Group

SQL
M

VM

SQL

Failover

AVAILABILITY
GROUP

SQL

SQL

WWW

SQL M

Backup —————————— Restore
·········· Log Replicated ··········
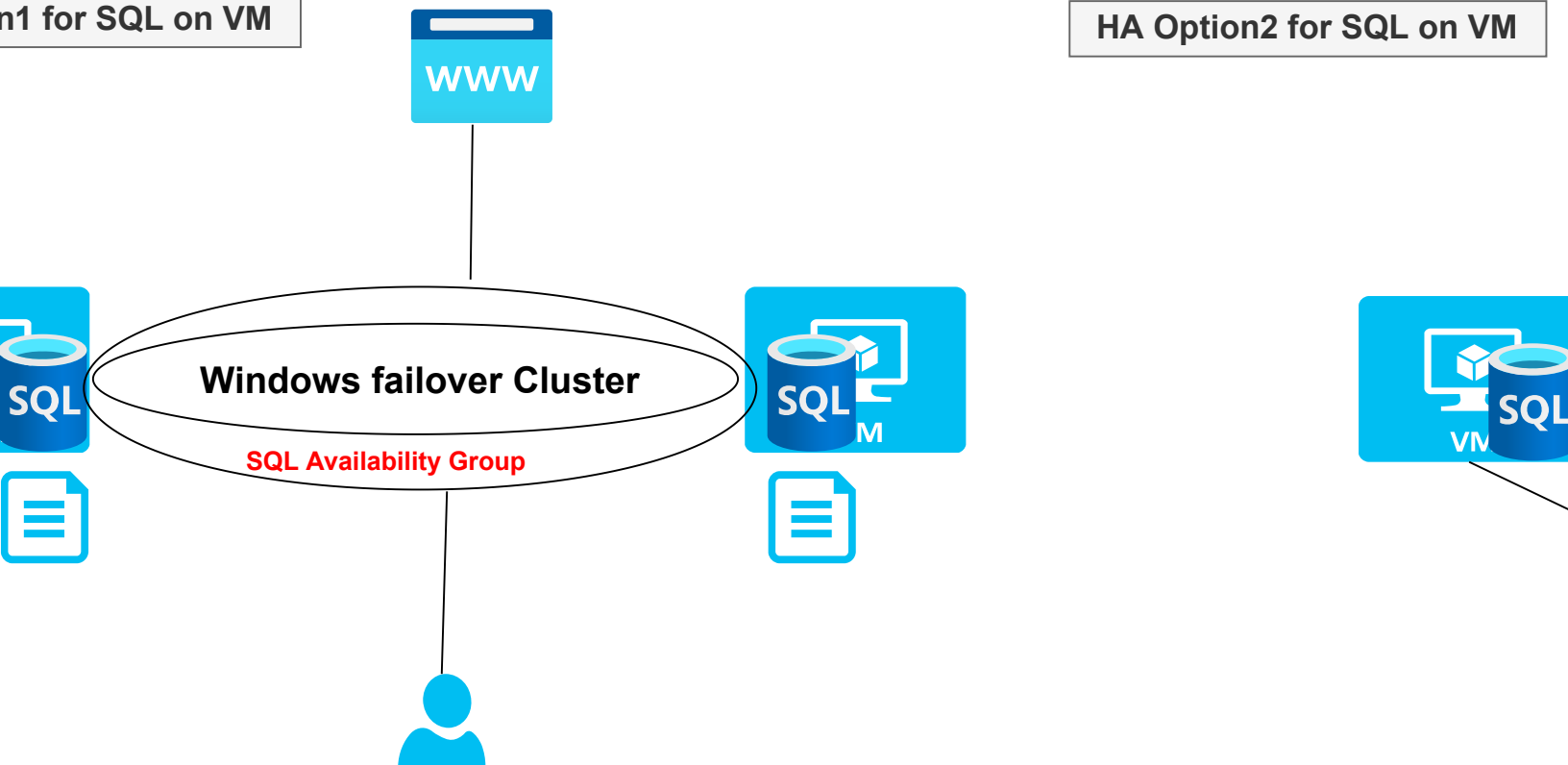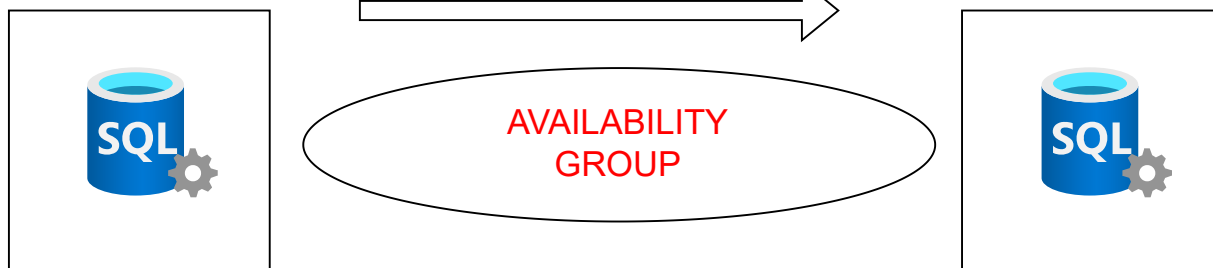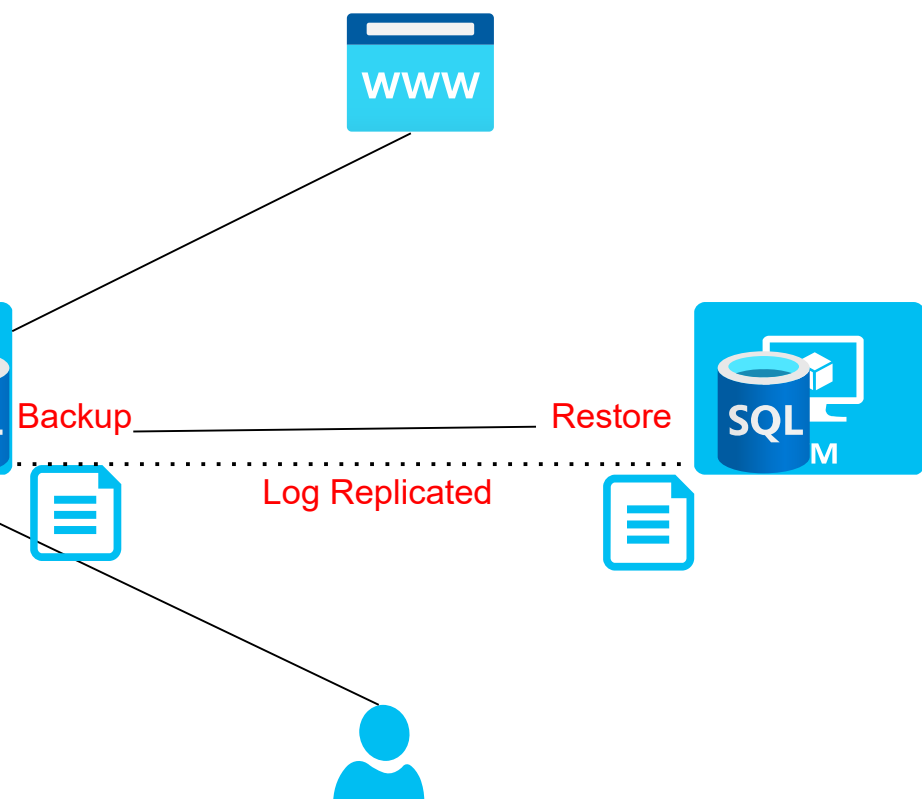
East-US

West-US

Recovery Service Vault

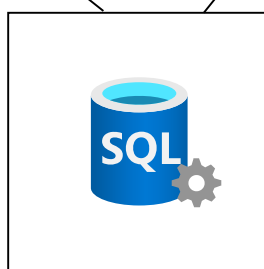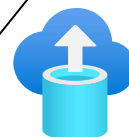**On-Cloud Backup**

On-Prem Backup

Migration

SQL

VM

Database Migration Assistant

Server Migration

SQL
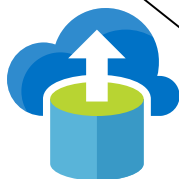
- **Collect Inventory of Server and Database**
- **Run Assessment on Database**
  - **Combability**
  - **Error Checking**
  - **Virus Inspection**
- **Migrate the Database / Server with database**

az-900

az-104

dp-300