**Episode 1:** Cloud Computing, High Availability, Scalability, Elasticity, Agility, Fault Tolerance, and Disaster Recovery

**Episode 2:** Principles of economies of scale

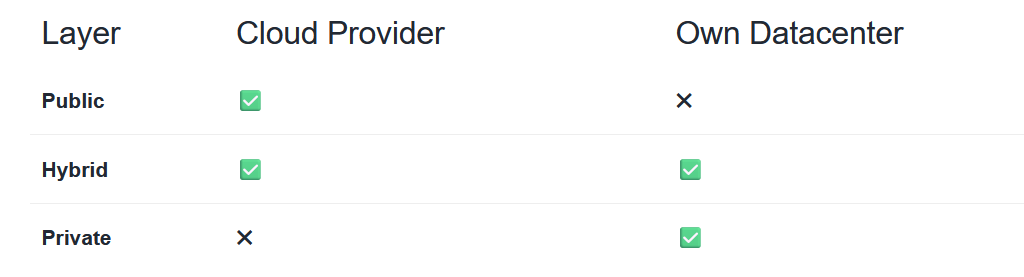
**Episode 3:** Capital Expenditure (CapEx) vs Operational Expenditure (OpEx) and their differences

**Episode 4:** Consumption-based model

* **No associated upfront cost**
* **No wasted resources**
* **Pay for what you need**
* **Stop paying when you don’t**

**Episode 5:** IaaS, PaaS, SaaS and their differences

**Episode 6:** Public, Private, Hybrid cloud and their differences



**Episode 7:** Azure Regions and Availability Zones

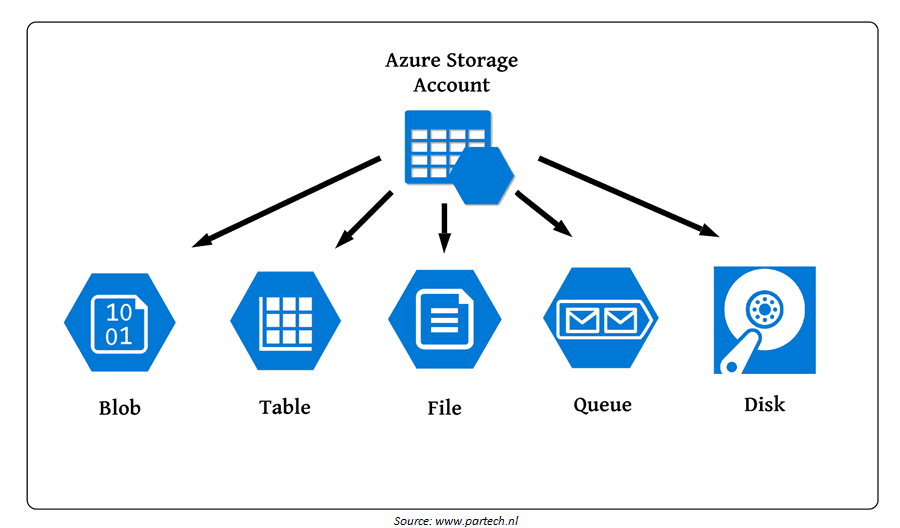
**Episode 8:** Azure Resource Groups and Resource Manager

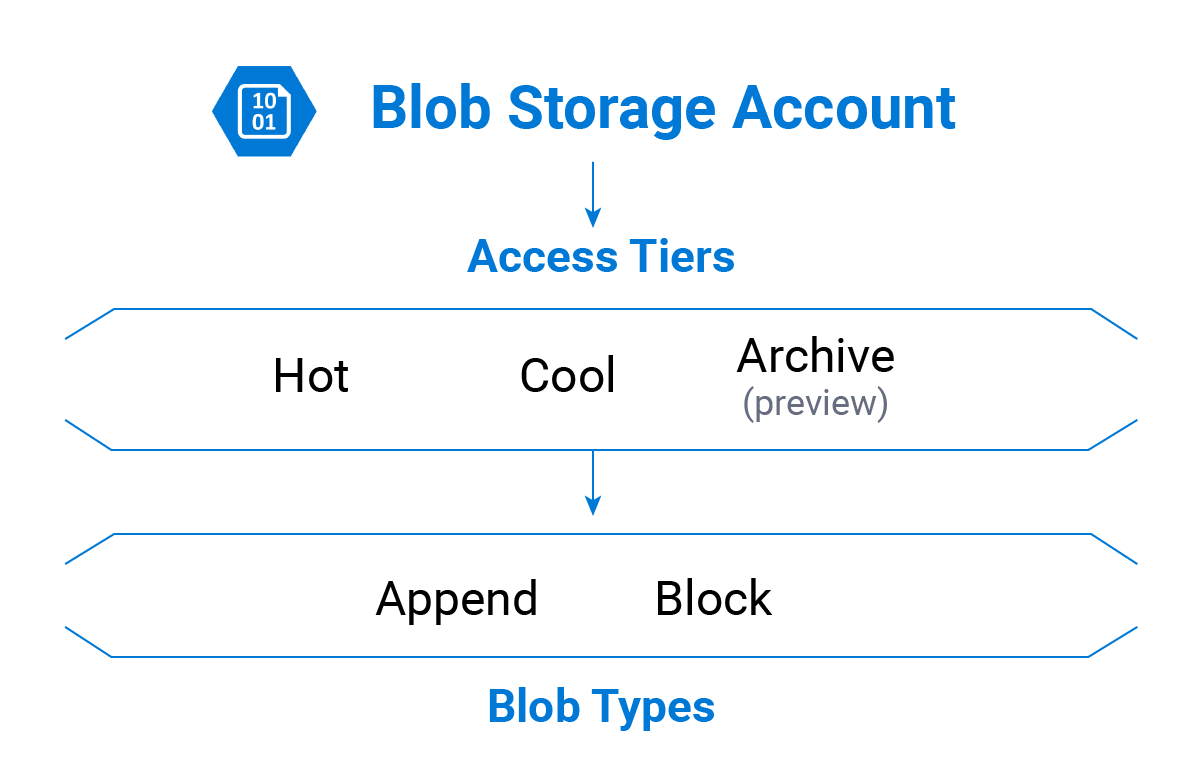
**Episode 9:** Azure Compute Services | Virtual Machine, VM Scale Set, App Service, Functions, Container Instances, Kubernetes Service, availability set

**Episode 10:** Azure Networking Services | Virtual Network, Load Balancer, VPN Gateway, Application Gateway, CDN

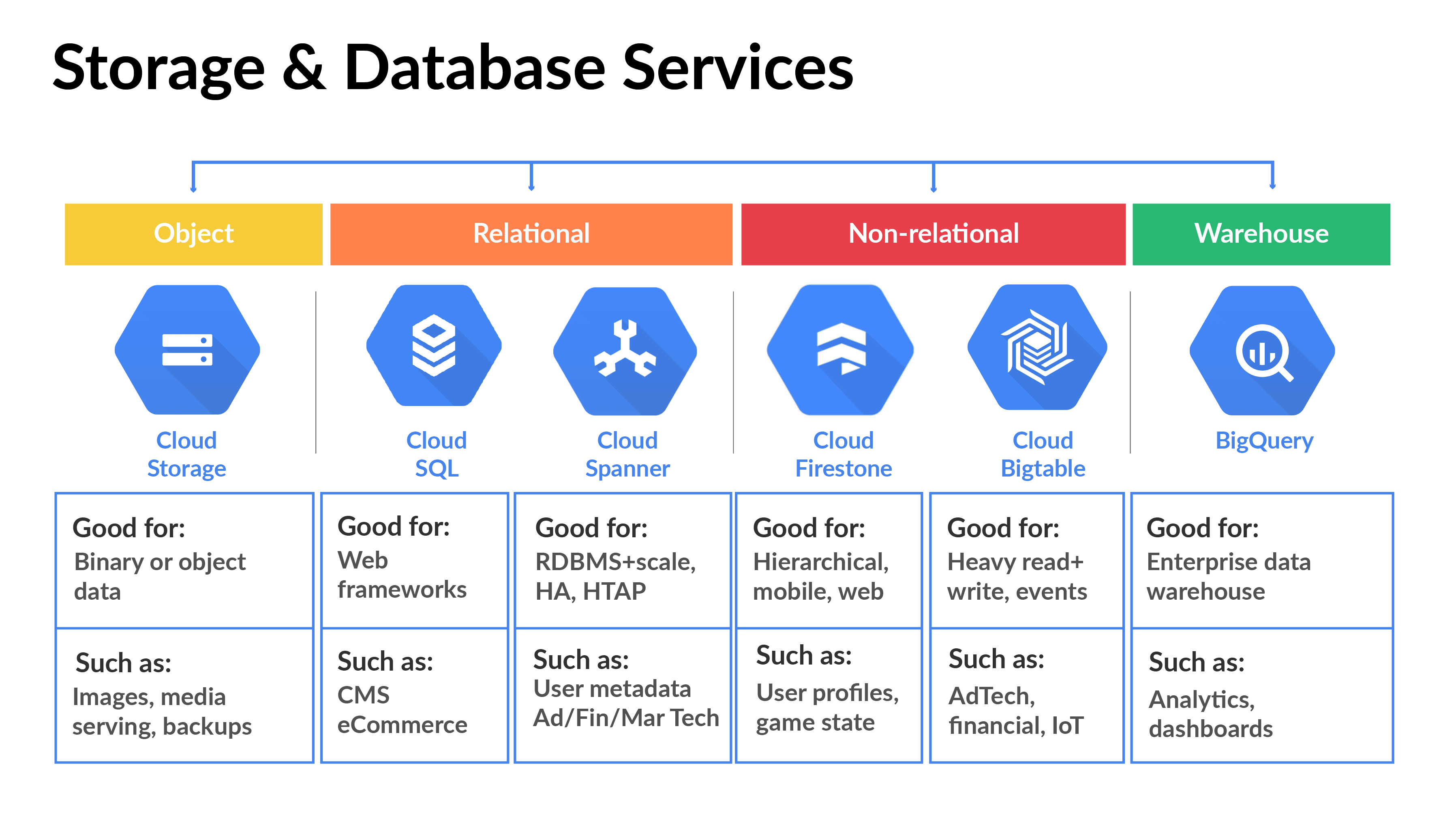
CDN: Bringing data close to user

**Episode 11:** Azure Storage Services | Blob, Disk, File and Archive





**Episode 12:** Database Services | Cosmos DB, SQL Database, SQL DB for MySQL and PostgreSQL, SQL Managed Instance



**Episode 13:** Azure Marketplace

* Think of it like an “Azure Shop” where you purchase services and solutions for the Azure platform
* Each product is a template which contains one or multiple services
* Products are delivered by first and third-party vendors
* Solutions can leverage all service categories like IaaS, PaaS and SaaS

**Episode 14:** Azure IoT Services | IoT Hub, IoT Central, Azure Sphere

**Azure IoT Services** securely connect, manage, and monitor devices at scale using **IoT Hub**, simplify solution development with **IoT Central**, and protect devices end-to-end using **Azure Sphere’s** built-in security.

IoT (Internet of Things) connects physical devices to the internet for data exchange and automation.

**Episode 15:** Azure Big Data and Analytics Services | Synapse Analytics (SQL Datawarehouse), HDInsight, Databricks

Azure Big Data services enable scalable data processing, analytics, and real-time insights using Synapse, HDInsight, Databricks, Spark, SQL Data Warehouse, data lakes, machine learning, and visualizations for informed decision-making.

**Episode 16:** Azure Artificial Intelligence (AI) Services | Machine Learning Studio and Service

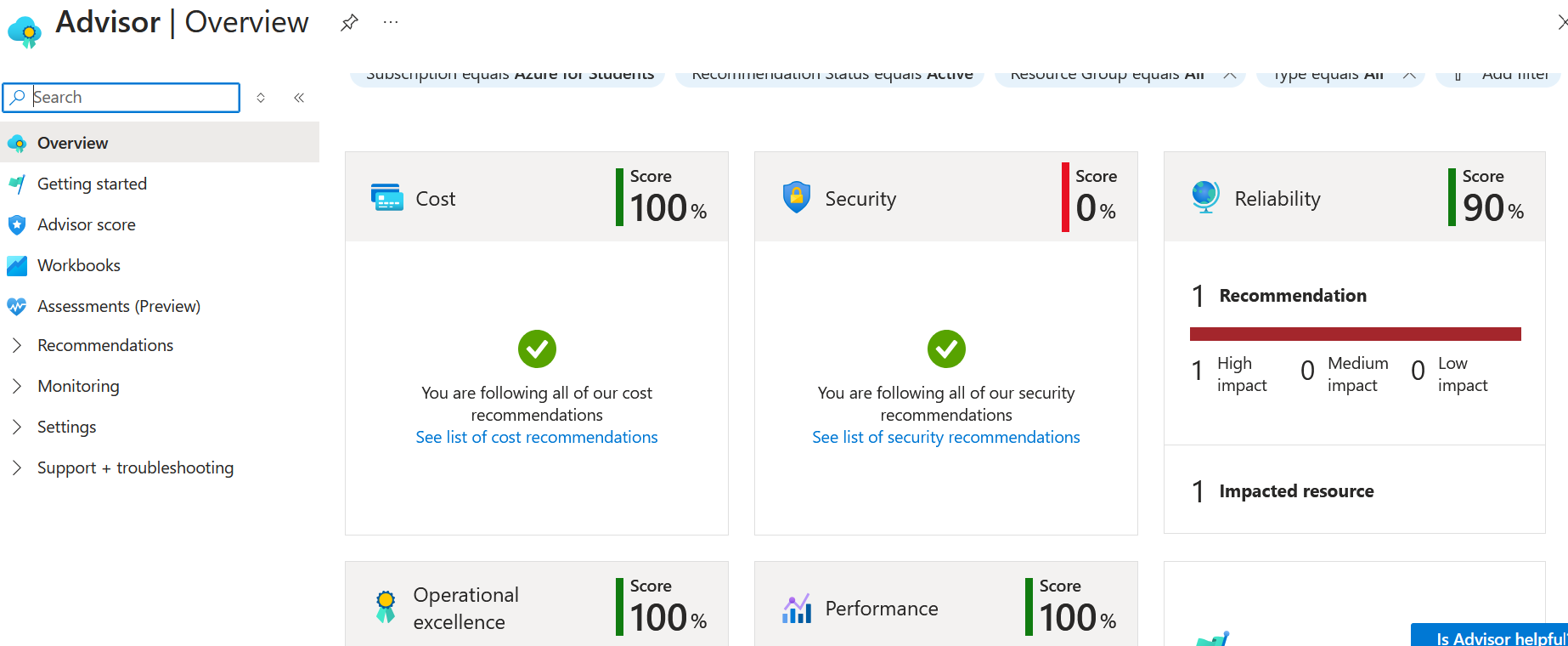
Azure AI Services enable building, training, and deploying machine learning models using automated tools, scalable compute, drag-and-drop interfaces, pipelines, versioning, MLOps integration, experiment tracking, and real-time model deployment.

**Episode 17:** Azure Serverless Computing Services | Functions, Logic Apps, Event Grid

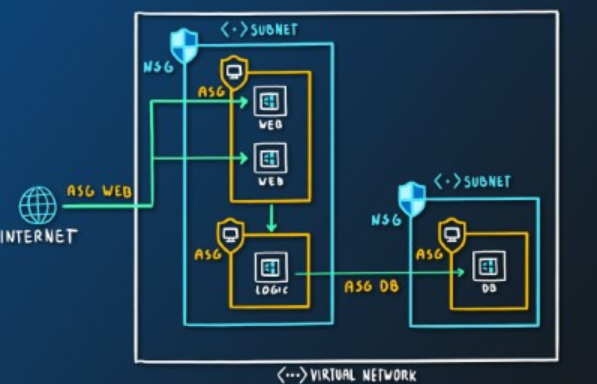
**Episode 18:** Azure DevOps Solutions | Azure DevOps, DevTest Labs

**Episode 19:** Azure Tools | Portal, PowerShell, CLI and CloudShell

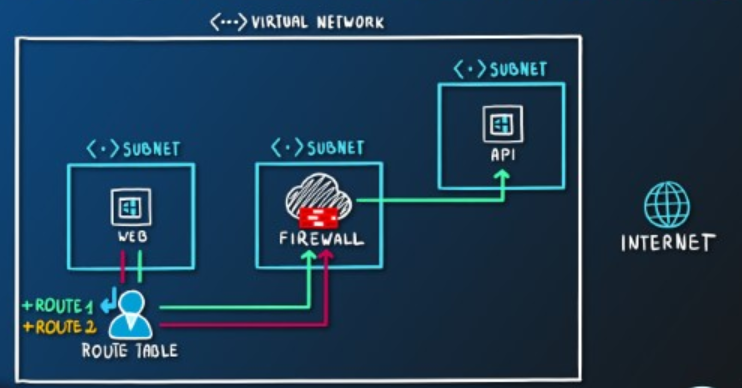
**Episode 20:** Azure Advisor

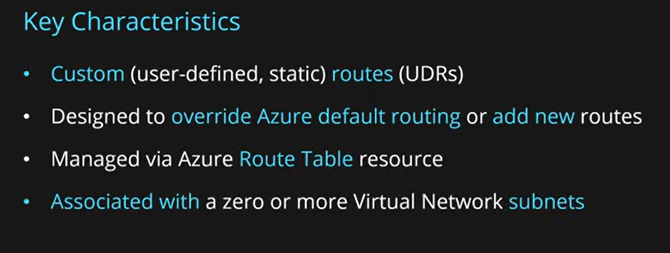


**Episode 21:** Security Groups | NSG and ASG | Network Security Groups and Application Security Groups

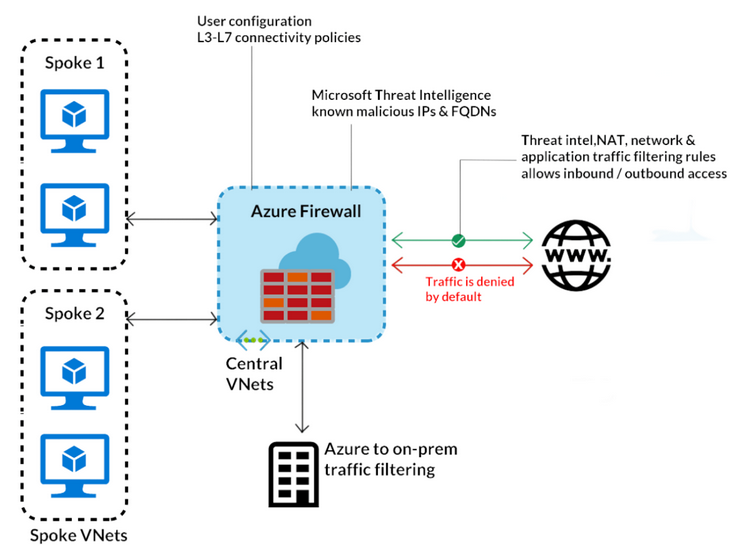


**Episode 22:** User-defined Routes (UDR)

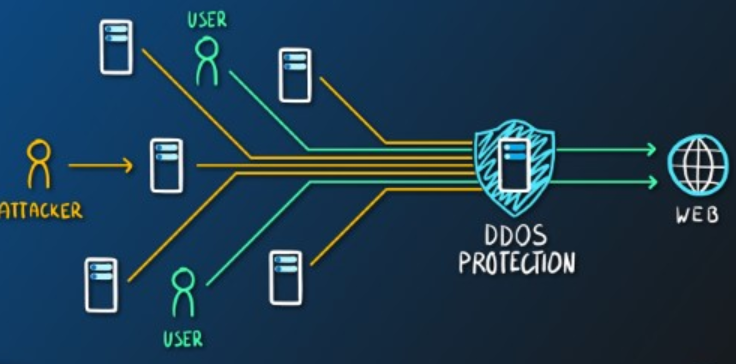




**Episode 23:** Azure Firewall >> attached to vnet



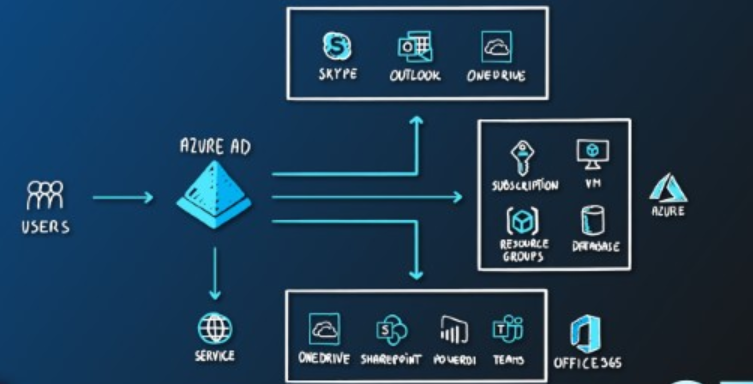
**Episode 24:** Azure DDoS Protection



* **DDoS protection service** in Azure
* Designed to
  + **Detect malicious traffic** **and block it** while allowing legitimate users to connect
  + **Prevent additional costs** for auto-scaling environments
* Two tiers
  + **Basic** – automatically enabled for Azure platform
  + **Standard** – additional mitigation & monitoring capabilities for Azure Virtual Network resources
* Standard tier uses machine learning to **analyze traffic patterns** for better accuracy

**Episode 25:** Azure Identity Services | Identity, Authentication, Authorization & Azure AD

Key terms- Identification and autherization

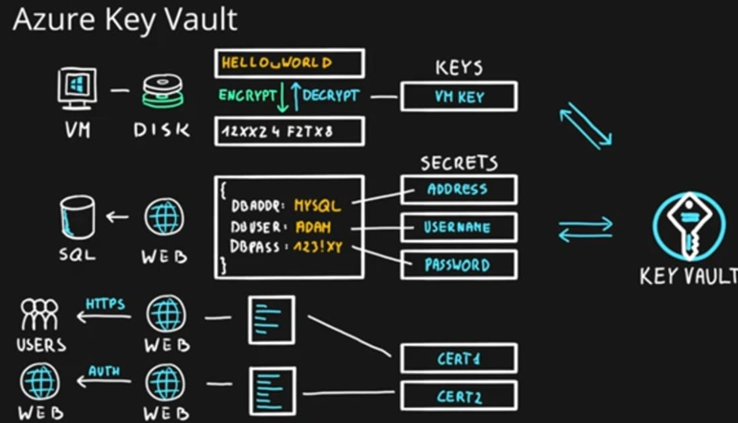


**Episode 26:** Azure Security Centre and usage scenarios

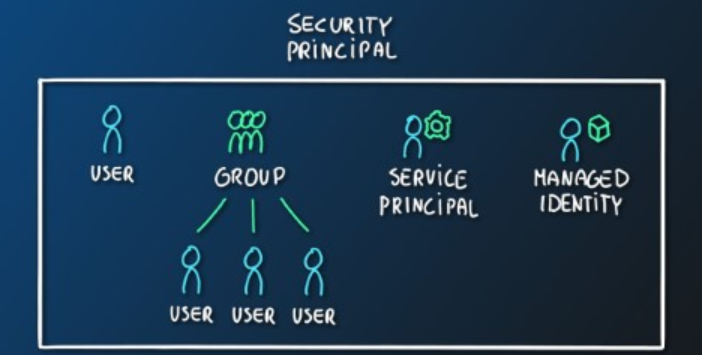
* **Centralized**/**unified** infrastructure and platform **security management service**
* **Natively embedded** in Azure services
* **Integrated** with **Azure Advisor**
* Two tiers
  + **Free** (Azure Defender OFF) – included in all Azure services, provides continuous assessments, security score, and actionable security recommendations
  + **Paid** (Azure Defender ON) – hybrid security, threat protection alerts, vulnerability scanning, just in time (JIT) VM access, etc.



**Episode 27:** Key Vault



**Episode 28:** Role-Based Access Control (RBAC)

Owner, contributor and reader

**Episode 29:** Resource Locks

Designed to **prevent accidental deletion** and/or **modification**

Used in conjunction with RBAC

Two types of locks

* **Read-only** (**ReadOnly**) – only read actions are allowed
* **Delete** (**CanNotDelete**) – all actions except delete are allowed

**Episode 30:** Tags

Tags are simple **Name** (key) - **Value** **pairs**

Designed to help with **organization of Azure resources**

Used for resource **governance**, **security**, **operations management**, **cost management**, **automation**, etc.



**Episode 31:** Azure Policy

**Episode 32:** Azure Blueprints

**Episode 33:** Cloud Adoption Framework

**Episode 34:** Core tenets of Security, Privacy, and Compliance

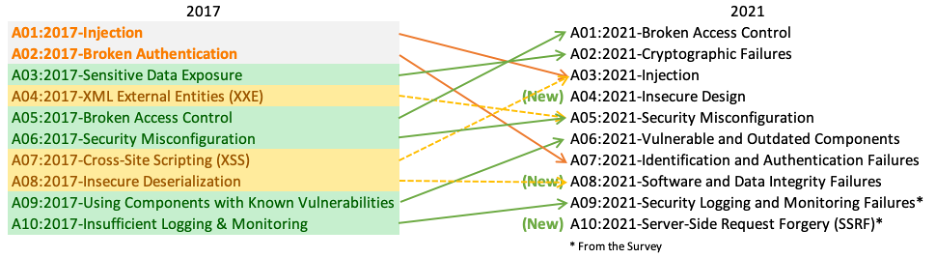
**Episode 35:** Cost Affecting Factors

**Episode 36:** Cost Reduction Methods and Pricing, TCO Calculators

**Episode 37:** Azure Cost Management

**Episode 38:** Azure Service Level Agreement (SLA)

**Episode 39:** Service lifecycle in Azure



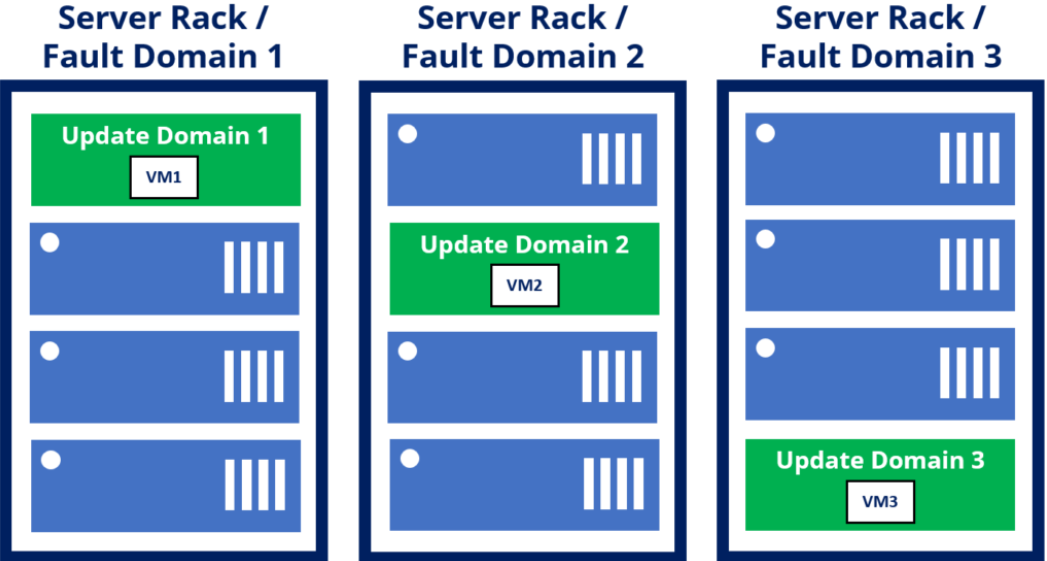
Locally Redundant Storage (LRS)

Geo-Redundant Storage (GRS)

Zone-Redundant Storage (ZRS)

Geo-zone-redundant Storage (GZRS)

Read-Access Geo-Redundant Storage (RA-GRS)



VMMS

Availability set