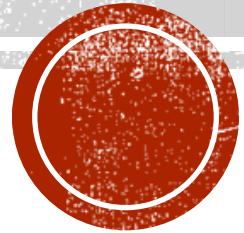
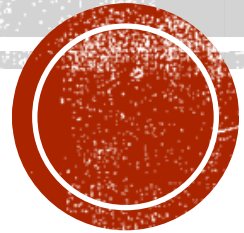
AWS GCP AZURE



- Virtual Private Cloud
- Subnets
- Access Controls
  - Route Tables
  - Security Groups
- DNS
- Database
- Virtual Machine
- Deployment tools



VIRTUAL PRIVATE CLOUD

- ***Multiple connectivity options***

Public/private subnets, corporate datacenter, peer VPCs, AWS services

- ***Secure***

Security groups, network access control lists

Store data in S3 and restrict access

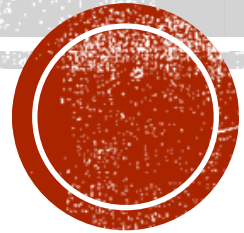
- ***Simple***

"Start VPC Wizard" using Console

- ***All the scalability and reliability of AWS***

EC2 instances

AWS VPC



VIRTUAL PRIVATE CLOUD

- ***Start Quickly***

offers automatic setup of your virtual topology, with suggested prefix ranges and network policies

- ***Flexible Geographical Scope***

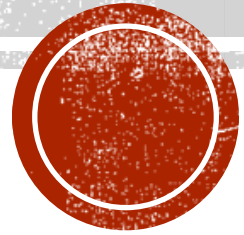
offers the flexibility to adapt your VPC network domain

- ***Secure***

secure private hybrid cloud scenarios

leverages the security of Google's data centers.

GCP VPC



- ***Highly Scalable***

distributed software architecture

- ***Share VPC Network***

share a common VPC network across multiple GCP projects to operate services with its own quotas and billing.

VIRTUAL PRIVATE CLOUD

Azure Virtual Networks

- ***Enhance security and isolation***

Isolated and highly-secure environment

- ***Rely on our global reach***

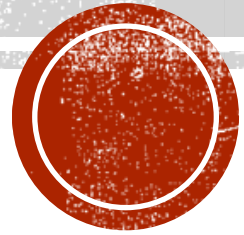
Intra-Azure traffic

- ***Build sophisticated network topologies***

WAN optimizers, load balancers, and application firewalls

- ***Extend your datacenter into the cloud***

Azure ExpressRoute



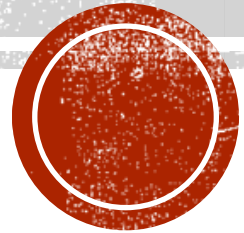
- ***Create hybrid applications***

on-premises SQL Server database, or authenticate customers

- ***IaaS and PaaS, better together***

ROUTE TABLE

Define the rules which govern whether traffic can flow between specific subnets and other VPC resources.



SUBNETS

AWS

Subnets may be configured to group related EC2 instances within a VPC

GCP

not constrain the private IP address ranges of subnets to the address space of the parent network

Azure

network resources can be grouped by subnet for organisation and security. Each subnet can be assigned a route table to define outgoing traffic flow

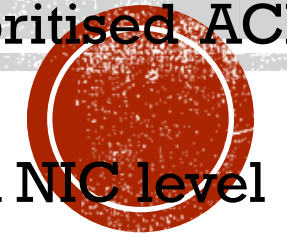
SECURITY GROUPS

AWS

provide an additional layer of security at the instance level. Security Groups are assigned to ENIs and define the traffic permitted to reach the target instance. Each ENI can have up to 5 Security Groups.

Azure

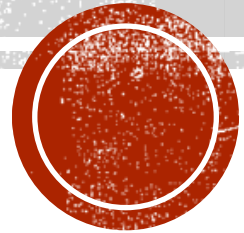
- Network Security Group(NSGs). An NSG contains a set of prioritised ACL rules that explicitly grant or deny access
- Provide core firewall controls at the individual VNET, subnet and NIC level



DNS

AWS

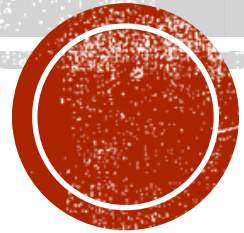
Provide through Route 53, which is is a DNS service that resolves user requests and ensures they are directed to the correct infrastructure. Route 53 is a Start of Authority naming service, meaning it is the authority for mapping domain names to IP addresses. It also provides a range of configurable routing strategies.



DNS

Azure

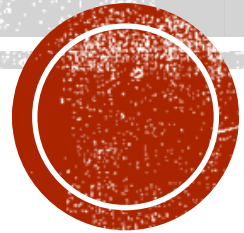
An authoritative DNS service that allows users to manage their public DNS names. Being an Azure service it allows network administrators to use their organisation identity to manage DNS while benefiting from all the usual access controls, auditing and billing features. Traffic Manager is a DNS based traffic routing solution. It provides a number of distribution policies including weighted round robin, automatic fail-over to healthy endpoints, and routing traffic to the nearest location.



DNS

GCP

Like AWS and Azure, allow organisations to manage their DNS and associated records along with the rest of their cloud services.



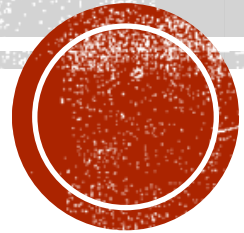
DATABASE

Vendor	Storage Services	Database Services	Backup Services
AWS	• Simple Storage Service (S3) • Elastic Block Storage (EBS) • Elastic File System (EFS) • Storage Gateway • Snowball • Snowball Edge • Snowmobile	• Aurora • RDS • DynamoDB • ElastiCache • Redshift • Neptune • Database migration service	• Glacier
Azure	• Blob Storage • Queue Storage • File Storage • Disk Storage • Data Lake Store	• SQL Database • Database for MySQL • Database for PostgreSQL • Data Warehouse • Server Stretch Database • Cosmos DB • Table Storage • Redis Cache • Data Factory	• Archive Storage • Backup • Site Recovery
GCP	• Cloud Storage • Persistent Disk • Transfer Appliance • Transfer Service	• Cloud SQL • Cloud Bigtable • Cloud Spanner • Cloud Datastore	• None

	AWS	Azure	GCP
Relational/SQL Database	RDS, Aurora	SQL Database Database for MySQL Database for PostgreSQL	Cloud SQL Cloud Spanner
NoSQL Database	DynamoDB	Cosmos DB Table Storage	Cloud Bigtable Cloud Datastore

DATABASE

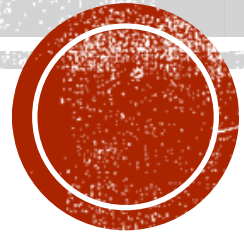
Amazon has a SQL-compatible database called Aurora, Relational Database Service (RDS), DynamoDB NoSQL database, ElastiCache in-memory data store, Redshift data warehouse, Neptune graph database and a Database Migration Service. Amazon doesn't offer a backup service, per say, however, it does have Glacier, which is designed for long-term archival storage at very low rates. In addition, its Storage Gateway can be used to easily set up backup and archive processes .



AWS

DATABASE

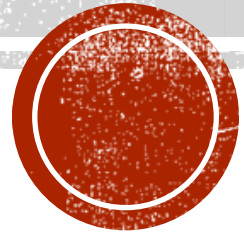
Three SQL-based options: SQL Database, Database for MySQL and Database for PostgreSQL. It also has a Data Warehouse service, as well as Cosmos DB and Table Storage for NoSQL. Redis Cache is its in-memory service and the Server Stretch Database is its hybrid storage service designed specifically for organizations that use Microsoft SQL Server in their own data centers. Unlike AWS, Microsoft does offer an actual Backup service, as well as Site Recovery service a



Azure

DATABASE

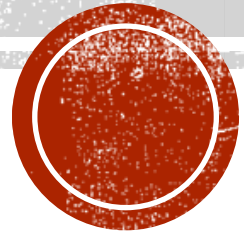
GCP has the SQL-based Cloud SQL and a relational database called Cloud Spanner that is designed for mission-critical workloads. It also has two NoSQL options: Cloud Bigtable and Cloud Datastore. It does not have backup and archive services .



GCP

VIRTUAL MACHINES

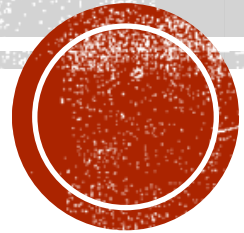
EC2 offers a wide variety of options, including a huge assortment of instances, support for both Windows and Linux, bare metal instances (currently a preview), GPU instances, high-performance computing, auto scaling and more. AWS also offers a free tier for EC2 that includes 750 hours per month of t2.micro instances for up to twelve months.



AWS

VIRTUAL MACHINES

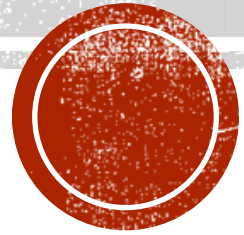
Virtual Machines. It boasts support for Linux, Windows Server, SQL Server, Oracle, IBM, and SAP, as well as enhanced security, hybrid cloud capabilities and integrated support for Microsoft software. Like AWS, it has an extremely large catalog of available instances, including GPU and high-performance computing options, as well as instances optimized for artificial intelligence and machine learning. It also has a free tier with 750 hours per month of Windows or Linux B1S virtual machines for a year.



Azure

VIRTUAL MACHINES

By comparison, Google's catalog of compute services is somewhat shorter than its competitors'. Its primary service is called Compute Engine, which boasts both custom and predefined machine types, per-second billing, Linux and Windows support, automatic discounts and carbon-neutral infrastructure that uses half the energy of typical data centers. It offers a free tier that includes one f1-micro instance per month for up to 12 months.



GCP

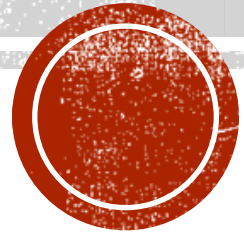
DEPLOYMENT TOOLS

- ***Elastic Beanstalk***

provide your application code created in one of a dozen or so platforms (Ruby, PHP, Node.js, Docker, etc.) and Beanstalk will pretty much invisibly build the necessary AWS infrastructure around it

- ***CloudFormation***

CloudFormation is all about JSON formatted templates. AWS describes it as a "building block service that enables customers to provision and manage almost any AWS resource."



- ***OpsWorks***

built on a framework of stacks and layers

AWS

DEPLOYMENT TOOLS

- ***CLI***

Azure CLI 2.0 is optimized for managing and administering Azure resources from the command line, and for building automation scripts that work against the Azure Resource Manager.CloudFormation

- ***PowerShell***

Azure PowerShell provides a set of cmdlets that use the Azure_Resource Manager model for managing your Azure resources. You can use it in your browser with Azure Cloud Shell, or you can install it on your local machine and use it in any PowerShell session.

Azure

DEPLOYMENT TOOLS

- ***Cloud SDK***

Command-line interface for Google Cloud Platform products and services. Manage all of your Google Cloud Platform projects from the command line including compute, networking, storage and development products.

- ***Cloud Shell***

Manage your infrastructure and applications from the command-line in any browser. Your own Linux VM accessible from your browser allows you to manage your GCP resources with all of the necessary tools pre-installed and up-to-date.

- ***Cloud Tools for applications(plugin)***

GCP

THANK YOU