## **AWS Global SERVICES**

## **AWS Networking Services :-**

* [Route 53](https://jayendrapatil.com/aws-route-53/) – **Global**
  + Route53 services are offered at AWS edge locations and are global
* [CloudFront](https://jayendrapatil.com/aws-cloudfront/) – **Global**
  + CloudFront is the global content delivery network (CDN) services are offered at AWS edge locations
* [Direct Connect Gateway](https://jayendrapatil.com/aws-direct-connect-gateway/) – Global
  + is a globally available resource that can be created in any Region and accessed from all other Regions.
* AWS Global Accelerator – Global
  + is a global service that supports endpoints in multiple AWS Regions.

## **AWS Identity & Security Services**

* [Identity Access Management – IAM](https://jayendrapatil.com/aws-iam-overview/)
  + Users, Groups, Roles, Accounts – **Global**
    - Same AWS accounts, users, groups, and roles can be used in all regions
  + Key Pairs – **Global** or Regional
    - EC2 created key pairs are specific to the region
    - RSA key pair can be created and uploaded that can be used in all regions
* [Web Access Firewall – WAF](https://jayendrapatil.com/aws-waf/) – **Global**
  + protect web applications from common web exploits and is offered at AWS edge locations globally.

## **AWS Regional SERVICES :-**

## **AWS Networking Services**

[Virtual Private Cloud](https://jayendrapatil.com/aws-virtual-private-cloud-vpc/)

* VPC – Regional
  + VPCs are created within a region
* Security groups – Regional
  + A security group is tied to a region and can be assigned only to instances in the same region.
* [VPC Endpoints](https://jayendrapatil.com/aws-vpc-endpoints/) – Regional
  + VPC Gateway & Interface Endpoints cannot be created between a VPC and an AWS service in a different region.
* Elastic IP Address – Regional
  + Elastic IP addresses created within the region can be assigned to instances within the region only.
* ELB, [ALB](https://jayendrapatil.com/aws-elb-application-load-balancer/), [NLB](https://jayendrapatil.com/aws-elb-network-load-balancer/), [GWLB](https://jayendrapatil.com/aws-gateway-load-balancer-gwlb/) – Regional
  + Elastic Load Balancer distributes traffic across instances in multiple Availability Zones in the same region
  + Use Route 53 to route traffic to load balancers across regions.
* [Transit Gateway](https://jayendrapatil.com/aws-transit-gateway-tgw/) – Regional
  + is a Regional resource and can connect VPCs within the same AWS Region.
  + Transit Gateway Peering can be used to attach TGWs across regions.

## **AWS Compute Services**

* [EC2](https://jayendrapatil.com/aws-ec2-overview/) Resource Identifiers – **Regional**
  + Each resource identifier, such as an AMI ID, instance ID, EBS volume ID, or EBS snapshot ID, is tied to its region and can be used only in the region where you created the resource.
* EBS Snapshot – **Regional**
  + An EBS snapshot is tied to its region and can only be used to create volumes in the same region and has to be copied from one region to another if needed.
* AMIs – **Regional**
  + AMI provides templates to launch EC2 instances
  + AMI is tied to the Region where its files are located with Amazon S3. For using AMI in different regions, the AMI can be copied to other regions
* Auto Scaling – **Regional**
  + Auto Scaling spans across multiple Availability Zones within the same region but cannot span across regions
* [ECS](https://jayendrapatil.com/aws-ec2-container-service-ecs/) – **Regional**
* [ECR](https://jayendrapatil.com/amazon-elastic-container-registry-ecr/) – **Regional**
  + Images can be pushed/pulled within the same AWS Region.
  + Images can also be pulled between Regions or out to the internet with additional latency and data transfer costs.

## **AWS Storage Services**

* [DynamoDB](https://jayendrapatil.com/aws-dynamodb-security/) – Regional
  + All data objects are stored within the same region and replicated across multiple Availability Zones in the same region
  + Data objects can be explicitly replicated across regions using cross-region replication
* [Storage Gateway](https://jayendrapatil.com/aws-storage-gateway/) – Regional
  + AWS Storage Gateway stores volume, snapshot, and tape data in the AWS region in which the gateway is activated
* [AWS GuardDuty](https://jayendrapatil.com/amazon-guardduty/) – Regional
  + findings remain in the same Regions where the underlying data was generated.
* [Amazon Detective](https://jayendrapatil.com/amazon-detective/) – Regional
* [Amazon Inspector](https://jayendrapatil.com/amazon-inspector/) – Regional
* [Amazon Macie](https://jayendrapatil.com/aws-macie/) – Regional
  + must be enabled on a region-by-region basis and helps view findings across all the accounts within each Region.
  + verifies that all data analyzed is regionally based and doesn’t cross AWS regional boundaries.
* [AWS Security Hub](https://jayendrapatil.com/aws-security-hub/) – Regional.
  + supports cross-region aggregation of findings via the designation of an aggregator region.
* [AWS Migration Hub](https://jayendrapatil.com/aws-migration-hub/) – Regional.
  + runs in a single home region, however, can collect data from all regions

## **AWS Management & Governance Tools**

* [AWS Config](https://jayendrapatil.com/aws-config/) – Regional
* [AWS Service Catalog](https://jayendrapatil.com/aws-service-catalog/) – Regional

## **AWS** Availability Zone **SERVICES :-**

## **AWS Networking Services**

* Subnet – **Availability Zone**
  + A subnet can span only a single Availability Zone
* Elastic Network Interface – Availability Zone
* Instances – **Availability Zone**
  + An instance is tied to the Availability Zones in which you launched it. However, note that its instance ID is tied to the region.
* EBS Volumes – **Availability Zone**
  + Amazon EBS volume is tied to its Availability Zone and can be attached only to instances in the same Availability Zone.
* [Cluster Placement Groups](https://jayendrapatil.com/aws-ec2-placement-groups/#Cluster_Placement_Groups) – **Availability Zone**
  + Cluster Placement groups can span across Instances within the same Availability Zones