

2. The NIST Definition of Cloud Computing

Cloud computing is a model for enabling ubiquitous, convenient, <u>on-demand</u> network access to a <u>shared</u> pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be <u>rapidly provisioned</u> and released with <u>minimal management</u> effort or service provider interaction. This cloud model is composed of five essential characteristics, three service models, and four deployment models.

Cloud Deployment Models

1. Private Cloud

Exclusive for single organization

2. Community Cloud

Exclusively shared by limited number of organizations

3. Public Cloud

Available to all for agreed terms and conditions

4. Hybrid Cloud

Composition of two distinct independent cloud infrastructures

Cloud Service Models

- 1. laaS Infrastructure as a Service
- 2. PaaS Platform as a Service
- 3. SaaS Software as a Service

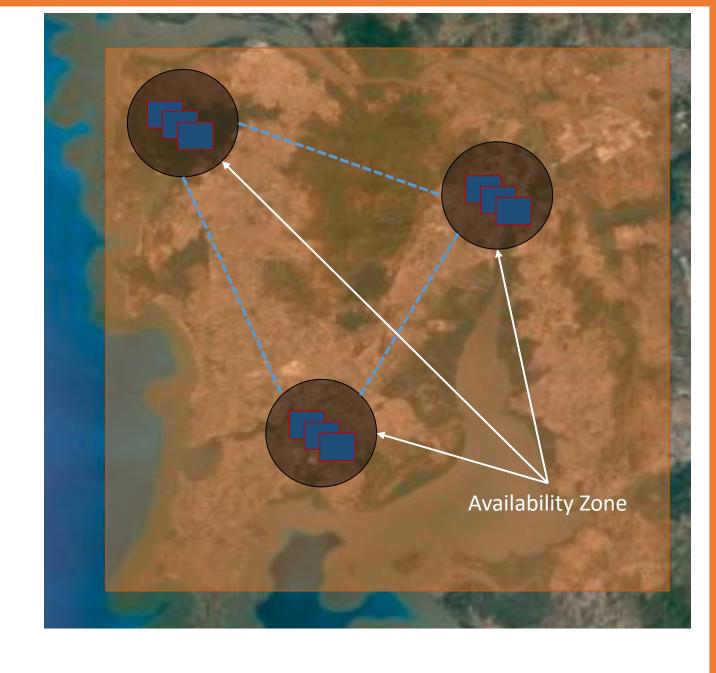
SaaS laaS PaaS **Application Code Application Code Application Code** Security Security Security Database Database Database **Operating System Operating System Operating System** Virtualization Virtualization Virtualization Networking Networking **Networking** Storage Hardware Storage Hardware Storage Hardware Server Hardware Server Hardware Server Hardware

Essential characteristics of Cloud

- 1. On-demand self-service
- 2. Broad network access
- 3. Resource pooling
- 4. Rapid elasticity
- 5. Measured service

AWS Global Infrastructure

- 1. Region
- 2. Availability Zone



Reference for more details:-

https://aws.amazon.com/about-aws/global-infrastructure/regions_az/

Reference for more details:- https://aws.amazon.com/about-aws/global-infrastructure/localzones/

Local Zone



Reference for more details:- https://aws.amazon.com/wavelength/

Wavelength

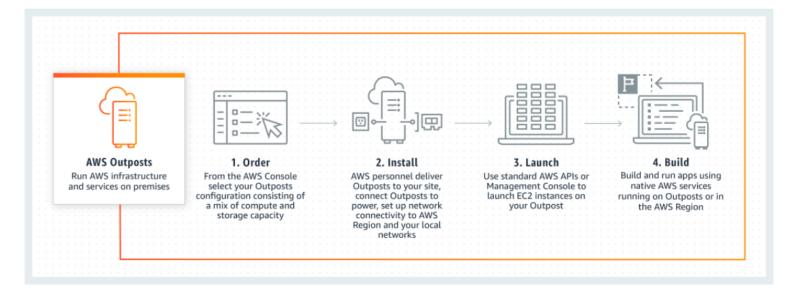
Wavelength Location Examples

LOCATION	COMMUNICATIONS SERVICE PROVIDER	AWS REGION	WAVELENGTH ZONE ID
Boston, US	Verizon	US East (N. Virginia)	us-east-1-wl1-bos-wlz-1
San Francisco Bay Area, US	Verizon	US West (Oregon)	us-west-2-wl1-sfo-wlz-1
Atlanta, US	Verizon	US East (N. Virginia)	us-east-1-wl1-atl-wlz-1
Washington DC, US	Verizon	US East (N. Virginia)	us-east-1-wl1-was-wlz-1
New York City, US	Verizon	US East (N. Virginia)	us-east-1-wl1-nyc-wlz-1
Miami, US	Verizon	US East (N. Virginia)	us-east-1-wl1-mia-wlz-1
Dallas, US	Verizon	US East (N. Virginia)	us-east-1-wl1-dfw-wlz-1
Las Vegas, US	Verizon	US West (Oregon)	us-west-2-wl1-las-wlz-1
Tokyo, Japan	KDDI	Asia Pacific (Tokyo)	ap-northeast-1-wl1-nrt-wlz-1
Daejeon, S. Korea	SK Telecom	Asia Pacific (Seoul)	ap-northeast-2-wl1-cjj-wlz-1

Reference for more details:- https://aws.amazon.com/outposts/

Outposts

How it works

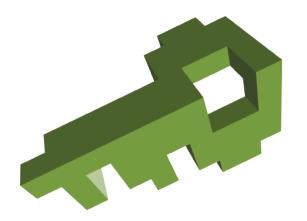


Core Service Categories

- 1. Compute Services
- 2. Storage Services
- 3. Networking and Content Delivery
- 4. Security, Identity and Compliance
- 5. Database Services
- 6. Management and Governance



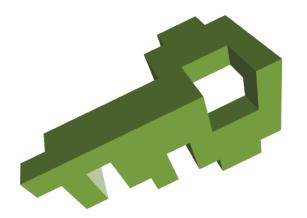




AWS IAM Concepts

- 1. Users
- 2. Groups
- 3. Policies





AWS Access Methods

- 1. AWS Management Console
- 2. AWS CLI
- 3. AWS API and SDK