

Course Link: [TOC - AWS - Services overview | Lex \(infosysapps.com\)](#)

Internal Certification Link: [TOC - Infosys Certified AWS Cloud Practitioner | Lex \(infosysapps.com\)](#)

Voucher Link: <http://modernization/CobaltEnablement/GetVoucher>

AWS Networking Service

VPC (Virtual Private Cloud)

1. Logically isolated segment
2. Control on infra
3. Virtual Networking
4. Choose IP address
5. IPv4 & IPv6
6. Can create subnets
7. Categorize private subnet and public subnet
8. Security

Components of VPC

1. Subnet (A range of IP address)
2. Route Table - A set of rules that guide traffic, subnet must attach with the route table
3. Internet Gateway – Its virtual device between your vpc and internet

Free of cost

4. NAT gateway (Network Address Translation) – It enables instances of private subnet to connect with the internet, Its chargeable
5. VPC Endpoint - private connection within your vpc
6. VPC peering - communication between two different vpc

Demo VPC – [Lab guide: Create a custom VPC - Viewer Page | Lex \(infosysapps.com\)](#)

Networking

Allowed CIDR (Classless Inter Domain Routing) ranges 10.0.0.0/16 to 10.0.0.0/28 for the subnet

10.0.0.0/28 = 0.0.0.0 == 00000000.00000000.00000000.00000000 = 32 bit

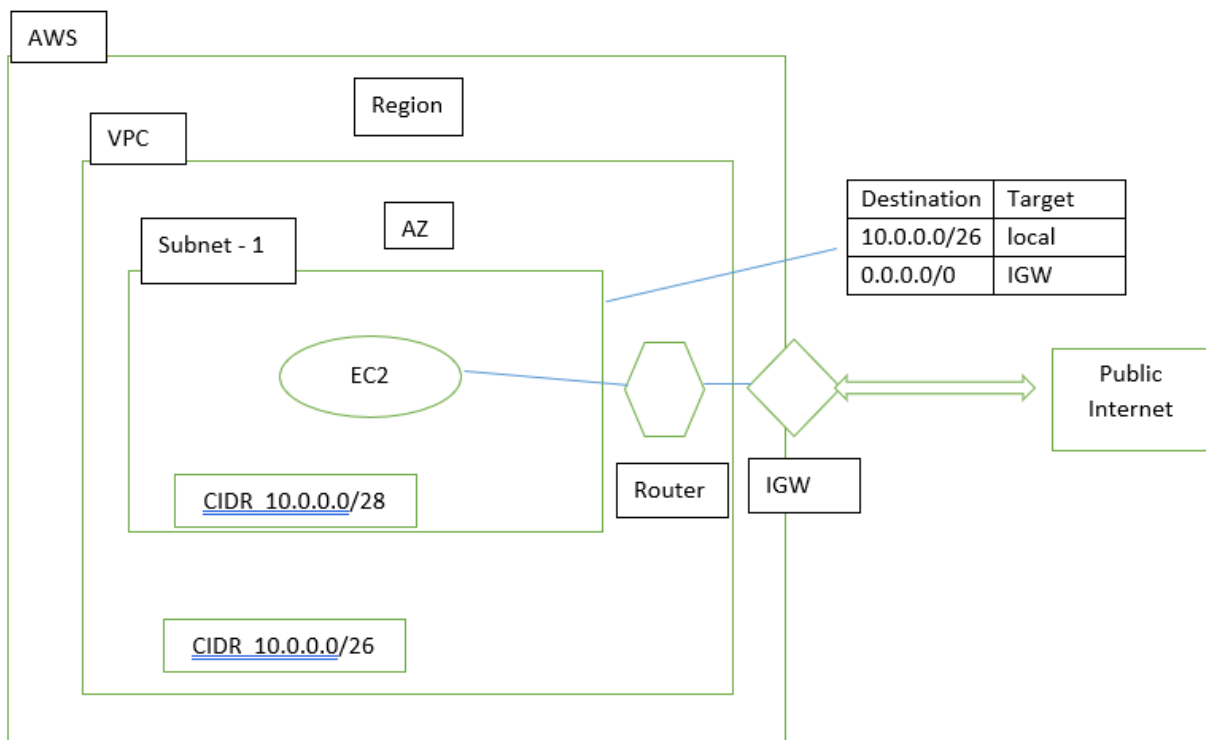
$32 - 28 = 4$ means $2 * 2 * 2 * 2 = 16$

10.0.0.0/16 -> Valid having 65536 addresses

10.0.0.0/28 -> Valid having 16 addresses

5 addresses are reserved

1. 10.0.0.0 -> Network Id
2. 10.0.0.1 -> Reserved by AWS for the VPC router
3. 10.0.0.2 -> Reserved by AWS the IP address of DNS server
4. 10.0.0.3 -> Reserved for future use
5. 10.0.0.255 -> Broadcast address



1. Create VPC - CIDR Range
2. Create Subnet – Inside VPC – CIDR Range – Enable Auto Assign IP
3. Create Internet Gateway – Created & Then attach with VPC
4. Route Table – Association with Subnet
5. Edit Route Table

Amazon Cloud Front – Content Delivery Service, Fast, Highly Secure , Programmable, Pay as you go

Route 53 - Domain name system, translates human-readable name (www.example.com) to numeric IP address

Database Services

- ➔ Structured Data
- ➔ Online Transaction Processing
- ➔ Online Analytical Processing
- ➔ Security
- ➔ Scalable
- ➔ Latency

Relational Database

- ➔ Tables
- ➔ Schema – Fixed

RDS (Relational Database Service) – AWS

- ➔ Easy to setup
- ➔ Scalable
- ➔ Preconfigured database engines (6)
- ➔ Use SQL
- ➔ Automatically Backup
- ➔ Point in time recovery
- ➔ OS Patching
- ➔ Read Replicas (AZ/Region / Cross-Region)
- ➔ MySQL, PostgreSQL, Oracle, SQL Server, MariaDB, Aurora

Demo – [Lab guide: Create MySQL RDS instance - Viewer Page | Lex \(infosysapps.com\)](#)

NoSQL (Not Only SQL)

DynamoDB

- ➔ Key-value store
- ➔ Session Data / History
- ➔ Fully managed – no overheads

- ➔ Serverless
- ➔ Global Tables
- ➔ Automatically backups
- ➔ Autoscaling

Amazon Redshift

- ➔ Data Warehouse
- ➔ Fully managed
- ➔ Petabyte Scale
- ➔ Get insight of your data
- ➔ Analysis of your data
- ➔ Business Decisions
- ➔ S3 -> Analyze (Spectrum)
- ➔ Developer Productivity

Identity Service

Authentication - Who / Username / Password

Authorization – What they can access / authorize for

Identity and Access Management (IAM)

User

- ➔ Least Privileges
- ➔ New User – by default nothing / no permission
- ➔ Individual
- ➔ IAM user -> AWS Account

User Groups

- ➔ Group of users / set of users
- ➔ Similar kind of users (trying to keep in a group)
- ➔ Manage permission at group level
- ➔ Attach Policies at group level
- ➔ A user can be a members of multiple groups
- ➔ A group can not have another group

IAM Role

- ➔ Independent AWS Identity
- ➔ Used to provide access to users
- ➔ Role / Designation / Job basis

IAM Policy

- ➔ Written in JSON format
- ➔ Create and manage permissions at granular level
- ➔ Action – Specific Activity or Functionality which can be performed by users, groups.
- ➔ Resources – Set of resources, which will be impacted by the action
- ➔ Effect – Indicates result of user access request for the resource – Allow / Deny

Amazon Cognito

- ➔ Provides authentication, authorization and user management for Web and Mobile App
- ➔ User identity and data synchronization service
- ➔ Can sign in through Facebook, Google

Single Sign on (IAM Identity Center)

- ➔ Manage multiple AWS accounts and applications
- ➔ Centrally manage

AWS Monitoring and Auditing Services

AWS Config

- ➔ Monitor configuration changes
- ➔ Used for auditing and compliance check
- ➔ Detailed history

AWS Trusted Advisor

- ➔ Ensure best practices
- ➔ Suggest/Recommendations for Cost Optimization, Performance, Fault Tolerance, Security & Service Limits

AWS Inspector

- ➔ Automatically check vulnerabilities

- ➔ Detailed assessment report

AWS Flow Logs

- ➔ Ingress and egress IP traffic information can be captured in VPC flow logs
- ➔ Information can be published to cloud watch

AWS CloudTrail

- ➔ Tracking user activity
- ➔ API usage tracking
- ➔ Each action recorded

AWS CloudWatch

- ➔ Observe and monitor AWS resources
- ➔ Set alarms (usage/utilization)
- ➔ Integrated with other AWS services

AWS Developer Tools

AWS Cloud9 (Integrated Development Environment)

AWS CodeCommit - Fully Managed, Source Control Service, Multiple Versions (git repository), Secure

AWS CodeBuild – Compiling and running test cases, produce s/w package to deploy on target machine, Full managed

AWS CodeDeploy – Helps and deploy the code to target (ec2 etc.), Maximize performance, if error it will be rollback

AWS CodePipeline - Release pipeline, Help in rapid delivery, Improve quality