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AWS Technical Essentials

Lesson 02 – AWS Services

Lesson Objectives

- After completing this lesson you should be able to understand
  - AWS Registration process
  - AWS Services

AWS Global Presence 16 Regions | 42 AZ

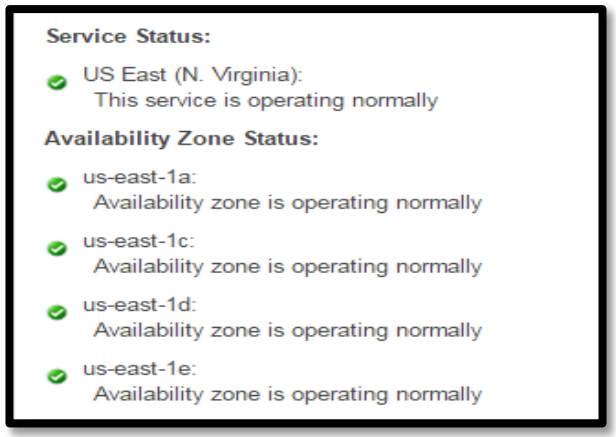
- Region
  - A region is geographical location of the AWS data centre
- Availability Zone
  - Each availability zone is isolated location within the same region

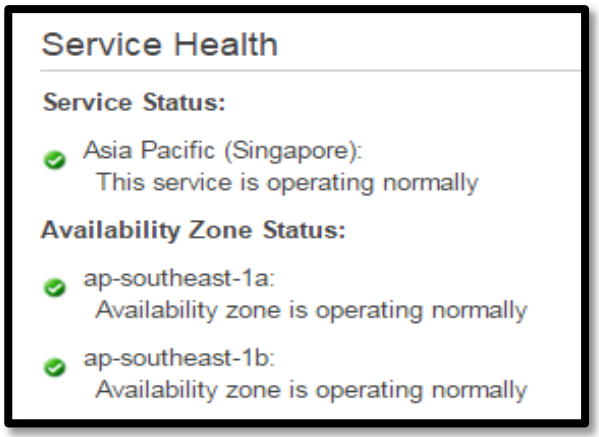
All communication between regions is across the public Internet. Data transfer between regions is charged at the Internet data transfer rate for both the sending and the receiving instance.

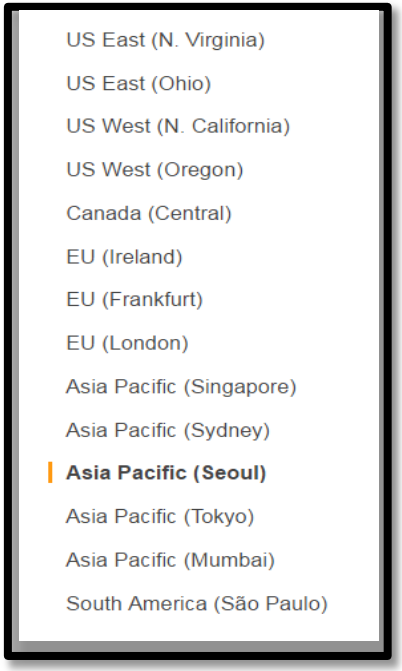
AWS Global Presence 16 Regions | 42 AZ

- Below two region not available to everyone
  - AWS Gov Cloud (US) : Accessible only to US government agencies
  - China (Beijing region) : It is a limited preview available to select group of china based and multi national customers in china

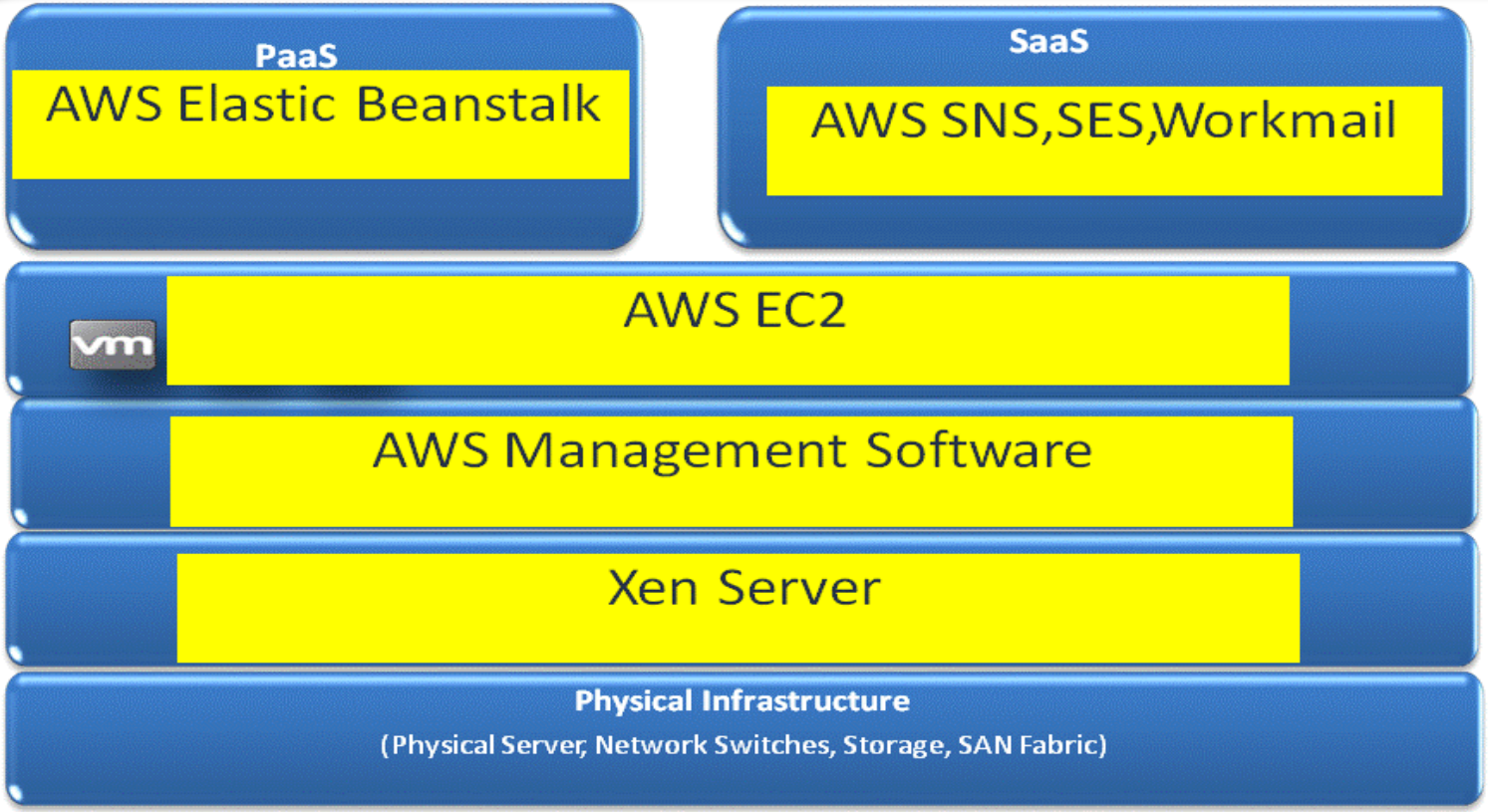
AWS Global Presence 16 Regions | 42 AZ







AWS Cloud Infrastructure



AWS Registration

- To use AWS services register with AWS
  - URL : https://aws.amazon.com
- AWS Pricing
  - Pricing varies depending on the services used

EC2 – Elastic Compute Cloud

- EC2 is a compute server
- You have choice to run windows and Linux virtual machines
- Instance type can vary based on the requirement

EC2 Instance configuration

- T2 Instance are used in dev environment where there is less usage of CPU
- M3 Instance used for data processing tasks that require additional memory, for running backend servers on SAP
- C3/C4 Instance type used for high performance front-end ,web servers
- G2 Instance type used for Game streaming, Video streaming, 3d application streaming
- HS1 instance type used for parallel systems

Demo

- Create EC2 instance

EBS – Elastic Block Store

- Provide persistent block level storage volumes
- Can attach it to EC2 Instance
- In easy words, think of EBS volumes like a D drive of your VM

EBS – Elastic Block Store

- EBS General Purpose (SSD)
  - For small to med size data
  - Charges $0.10/GB/month
- EBS Provisioned IOPS (SSD)
  - For large relational data
  - Charges $0.125/GB/month

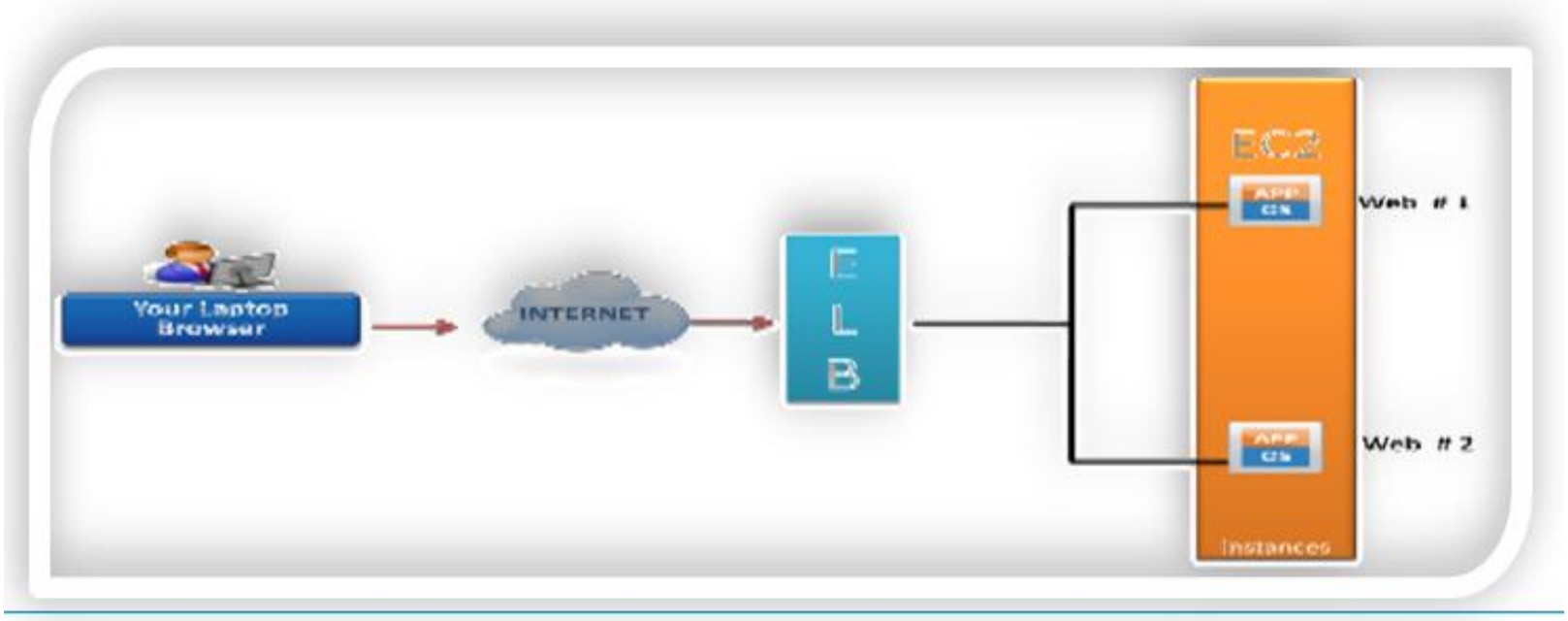
Demo

- Create volumes
- Attaching volume to the instance

ELB- Elastic Load Balancer

- Elastic Load balancer automatically distributes incoming application traffic across multiple Amazon EC2 instances in the cloud
- Achieve higher levels of fault tolerance for your applications by using Elastic Load Balancing to automatically route traffic across multiple instances and multiple Availability Zones
- Additionally, Elastic Load Balancing offers integration with Auto Scaling to ensure that you have back-end capacity to meet varying levels of traffic without requiring minimal intervention

ELB- Elastic Load Balancer



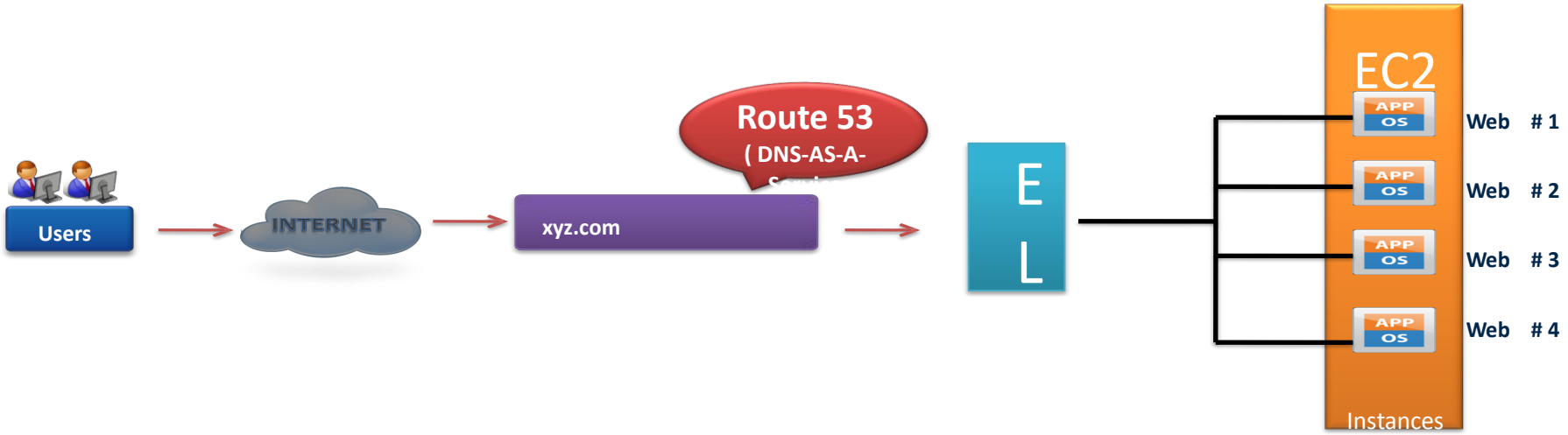
Demo

- Configuring Load Balancer

Route-53

- Elastic Amazon Route-53 is a highly available and scalable cloud Domain Name System (DNS) web service
- It is designed to route end users to Internet applications by translating names like www.example.com in to numeric IP addresses like 192.0.2.1 that computers use to connect to each other
- Amazon Route-53 effectively connects user requests to infrastructure running in AWS – such as Amazon EC2 instances, ELB, etc
- The DNS port number is 53 and that is how the name Route53 was coined by AWS for the global DNS service

Route-53



Web : https://thecloudenabled.com .

S3- Simple Storage Service

- Amazon S3 is easy to use object storage, with a simple web service interface to store and retrieve any amount of data from anywhere on the web.
- You can store static files docs, ppt ,xls , pdf ,audio and video files any other files
- Amazon S3 provides cost-effective object storage for a wide variety of use cases including backup and recovery, big data analytics, content distribution

S3- Simple Storage Service

https://console.aws.amazon.com/s3/home?region=ap-southeast-2

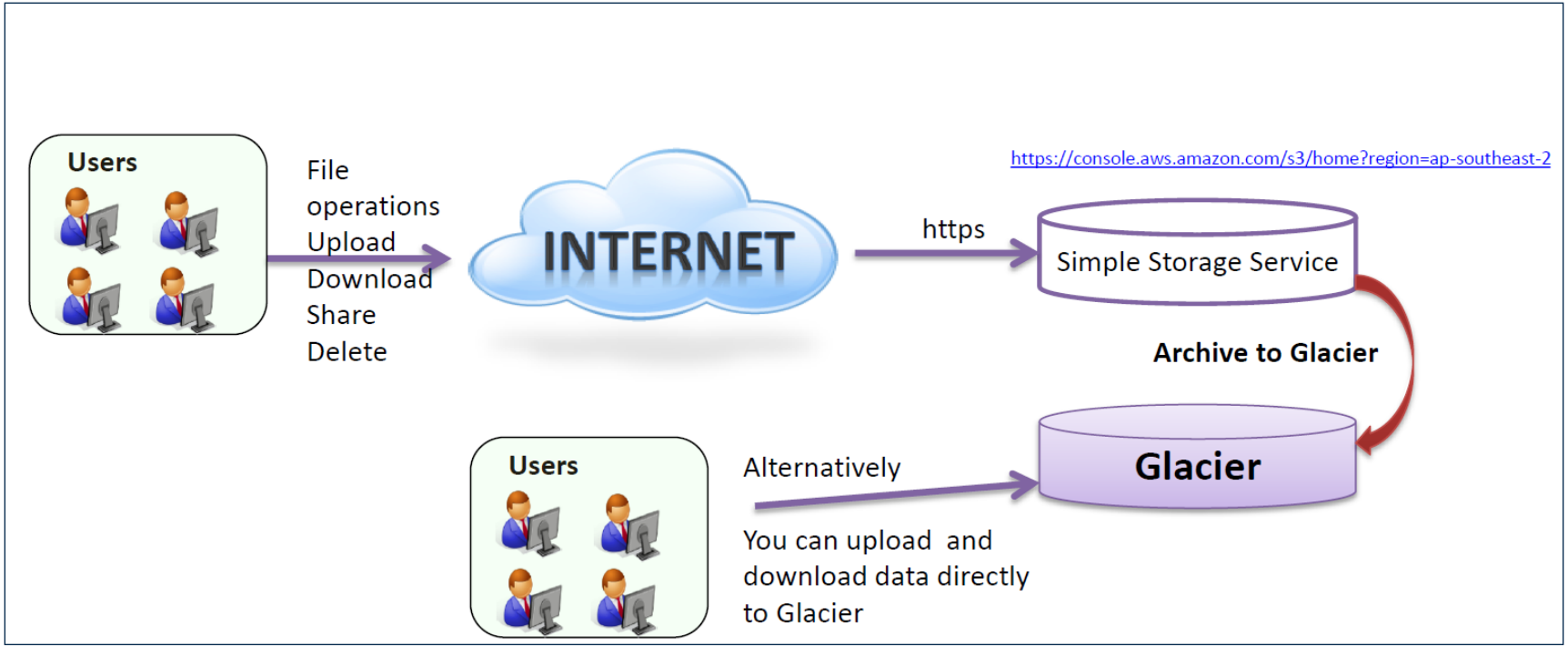
Demo

- Creating S3 bucket
- Upload, download files
- Delete bucket
- Static website configuration

Glacier

- Amazon Glacier is a secure, durable, and extremely low-cost cloud storage service for data archiving and long-term backup
- Through Amazon S3 lifecycle policies, you can optimize your storage costs by moving infrequently accessed objects from Amazon S3 to Amazon Glacier (or vice-versa)
- For long term retention of data, Customers can reliably store large or small amounts of data for as little as $0.007 per gigabyte per month, a significant savings compared to storing on S3
- Amazon Glacier supports data transfer over SSL and automatically encrypts your data at rest
- A single archive can be as large as 40 terabytes

Glacier



RDS

- Amazon Relational Database Service (Amazon RDS) makes it easy to set up, operate, and scale a relational database in the cloud
- It provides cost-efficient and resizable capacity while managing time-consuming database administration tasks, freeing you up to focus on your applications and business
- Amazon RDS provides you six familiar database engines to choose from

Amazon RDS Database Engines

RDS-Benefits

- No need to launch EC2 instance
- No need to install and manage database servers
- No need to setup replication (primary database on instance A and secondary database on instance B)
- Even minor upgrade of your database version are taken care by AWS

Summary

- In this lesson you learnt
  - How to create AWS account
  - AWS Pricing
  - AWS Services