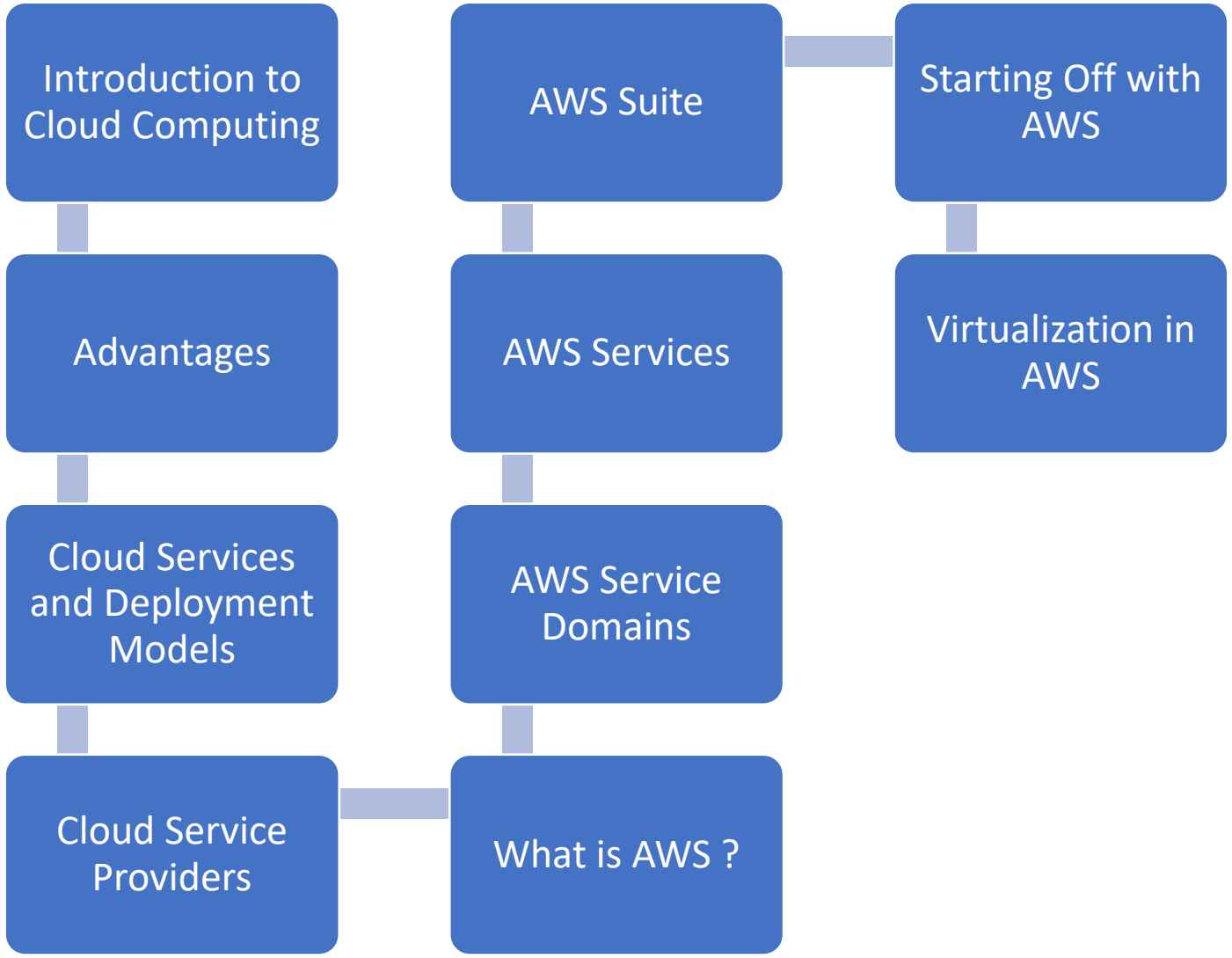
AWS Cloud Foundation

Torry Harris Business Solutions 25.11.2021


Introduction to Cloud Computing
Advantages
Cloud Services and Deployment Models
Cloud Service Providers
What is AWS ?
AWS Service Domains
AWS Services
AWS Suite
Starting Off with AWS
Virtualization in AWS

Agenda

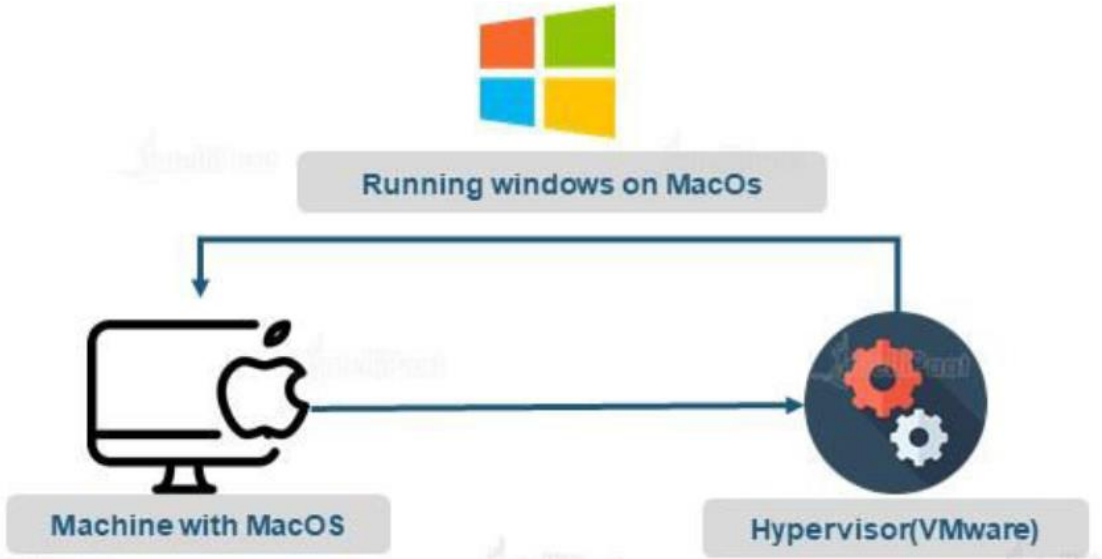
Introduction to Cloud Computing

Introduction to Cloud Computing

- In the simplest terms, Cloud Computing is when you use a computer/server which is provided to you by someone else.
- This server has to be accessed over the internet by using a web-based tool for personal or business use.

Virtualization

Virtualization is the creation of a virtual version of something, such as operating system, server, storage device or network resources.



Cloud Computing

- Virtualized Compute Environment over internet/intranet is cloud.
- Cloud computing = Virtualization + Internet/Intranet

Advantages

Advantages over on-premise

No Capital Expenditure, whatsoever

Getting a new server is as easy as clicking some mouse buttons

Provides very high available solutions without any extra effort

Flexibility and Error shield

Everything is charged on per second/minute/hour basis and pay only if you use

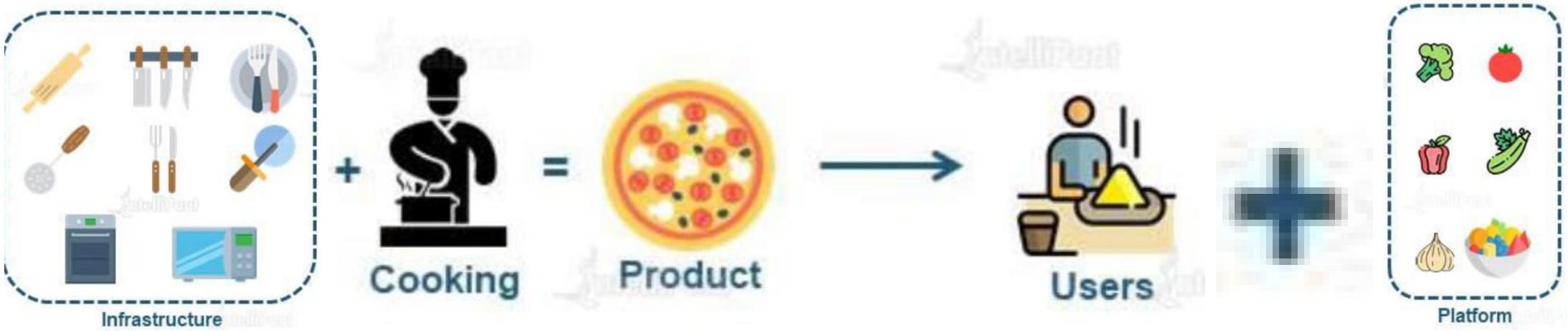
Security

Cloud Services and Deployment Models

Models and Deployments

Cloud Service Models

- IaaS (Infrastructure as a Service): AWS, Rackspace, MS Azure etc.
- PaaS (Platform as a Service): AWS Elastic Beanstalk, Heroku etc.
- SaaS (Software as a Service): Google drive, Google docs, MS Office 365 etc.



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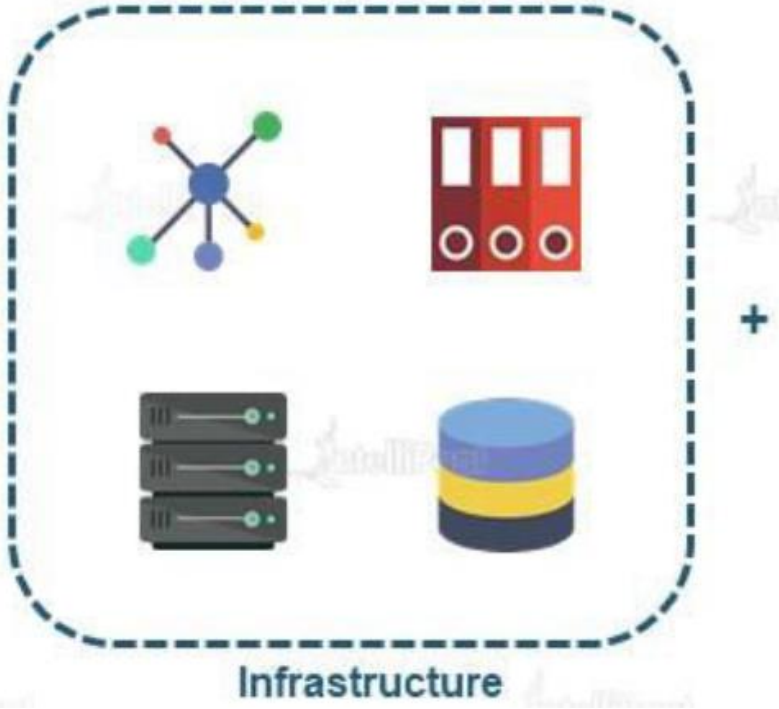

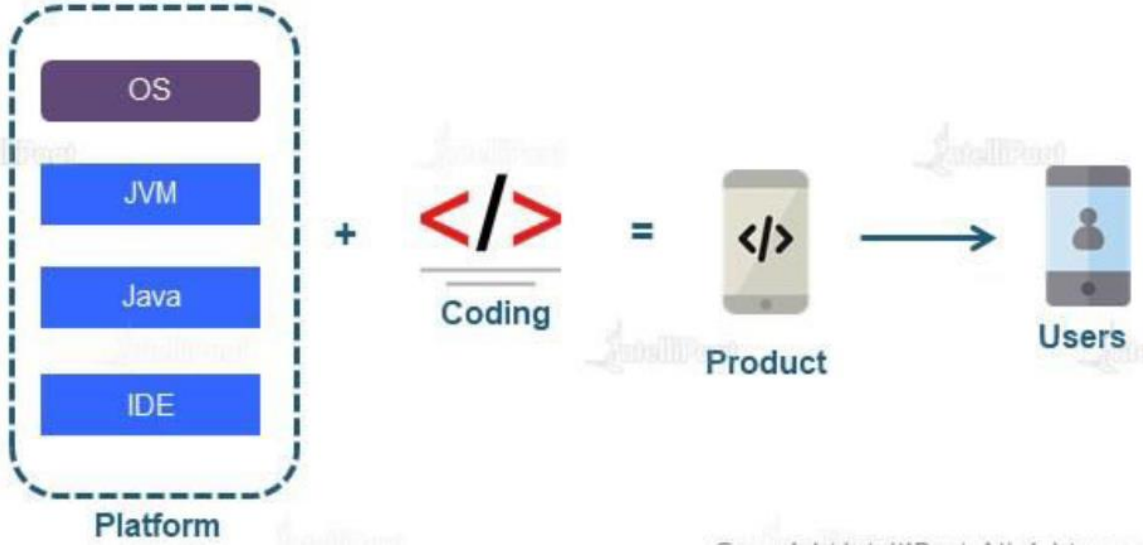

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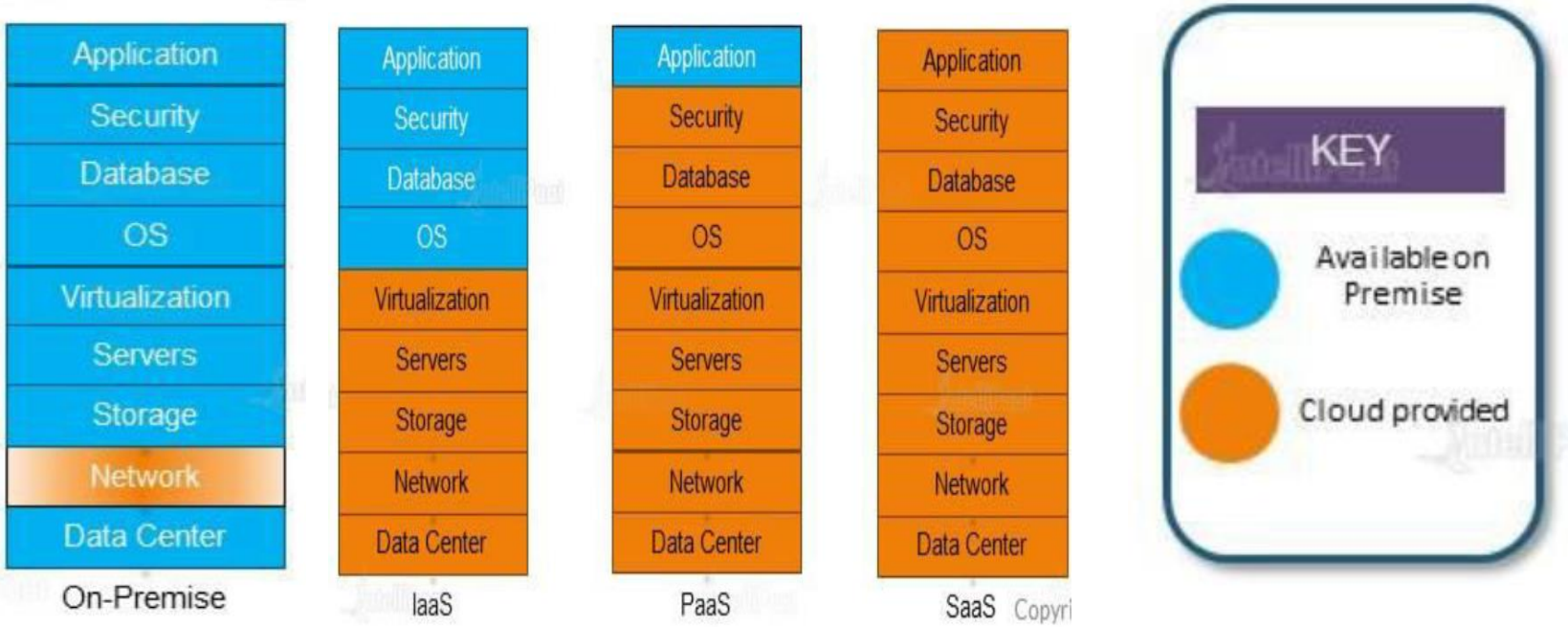

Models and Deployments

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Cloud Deployment Models

- Public Cloud (AWS, MS Azure, Google Platform, IBM Bluemix etc.)
- Private Cloud (HPE, VMware, RedHat OpenStack, Dell EMC etc.)
- Hybrid Cloud

Cloud Service Providers

Cloud Service Providers

A Cloud Provider is a company that delivers services and solutions which are based on cloud computing to businesses and/or individuals

Cloud Service Providers

Amazon Web Services

- The biggest cloud service provider with 33 zones of availability spread across 17 worldwide regions!
- The largest companies in the world like Netflix, Reddit and NSA use AWS to host their applications

Microsoft Azure

- 2nd biggest market share holder in the cloud computing industry
- Azure ranks number in the development and testing tools

Google Cloud Platform

- They rank behind AWS and Azure.
- They mainly provide SaaS services (Google forms, Google docs)

What is AWS

What is AWS

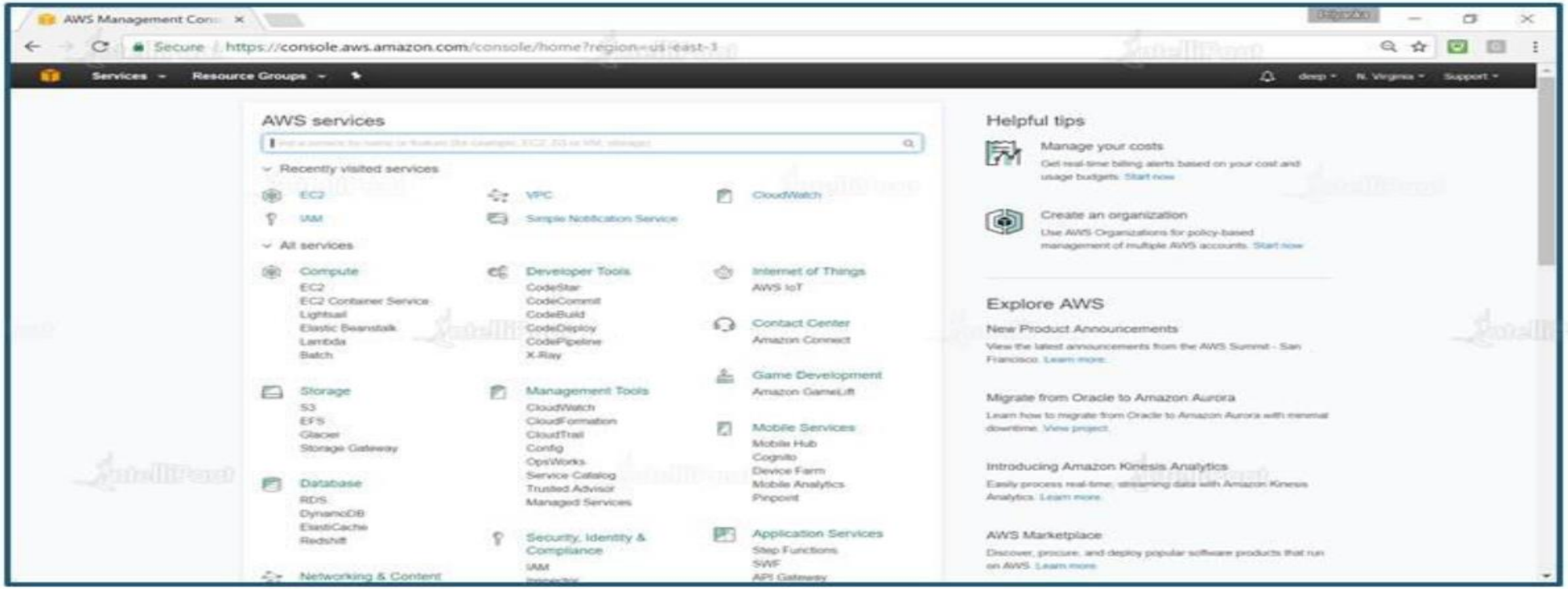
- Amazon Web Services provides on-demand cloud computing services to businesses and individuals.
- It is owned by Amazon.com and specializes at providing infrastructure as a service
- AWS is a platform which helps businesses scale and grow by offering secure cloud services like compute power, content delivery, database storage, and other functionality.

What is AWS ?

Competitors for AWS

- Amazon Web Services has 2 main competitors right now and they are Microsoft Azure and Google Cloud
- Both of them lack behind in experience and the number of services provided
- But Azure and Google Cloud are catching up in the race
- If you want to choose a cloud provider and you do not know anything about the industry, you place your bets surely on AWS because of their huge experience

AWS Management Console



What is AWS ?

World's largest companies in their own field of work such as Netflix and Samsung use AWS Cloud services

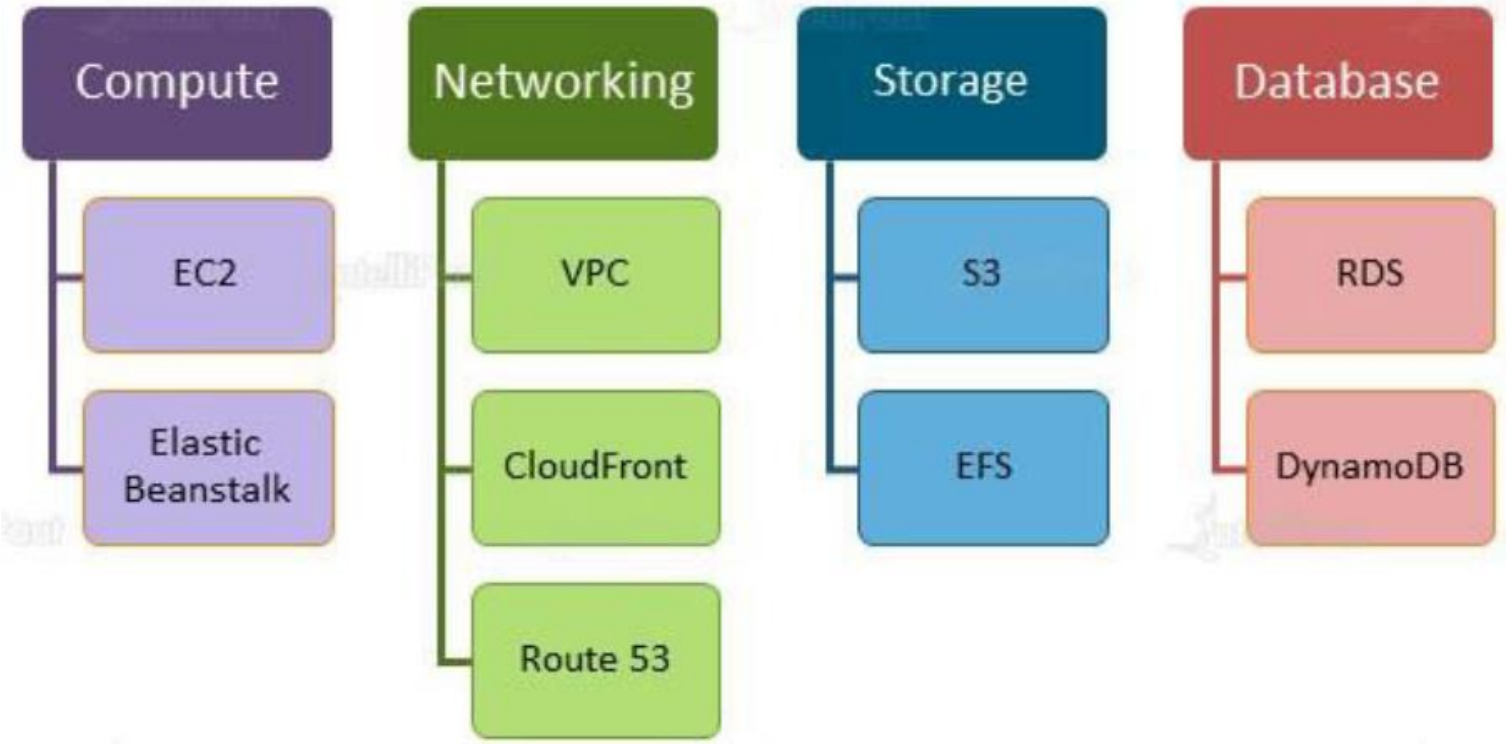
AWS Service Domains

AWS Service Domains

AWS Services

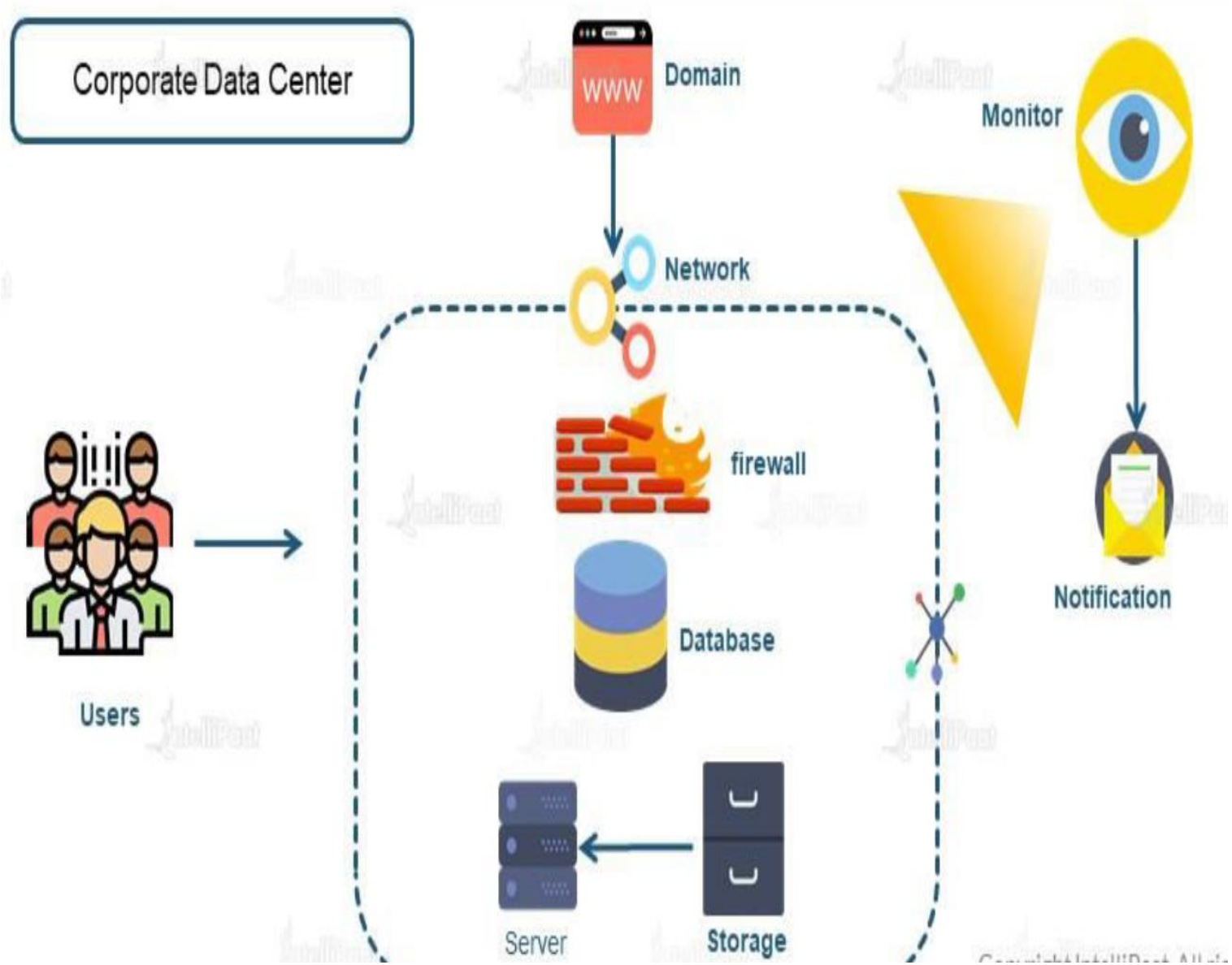
AWS Services

AWS has a rich list of on-demand cloud services to provide, and here are several of the services under the respective service domains.

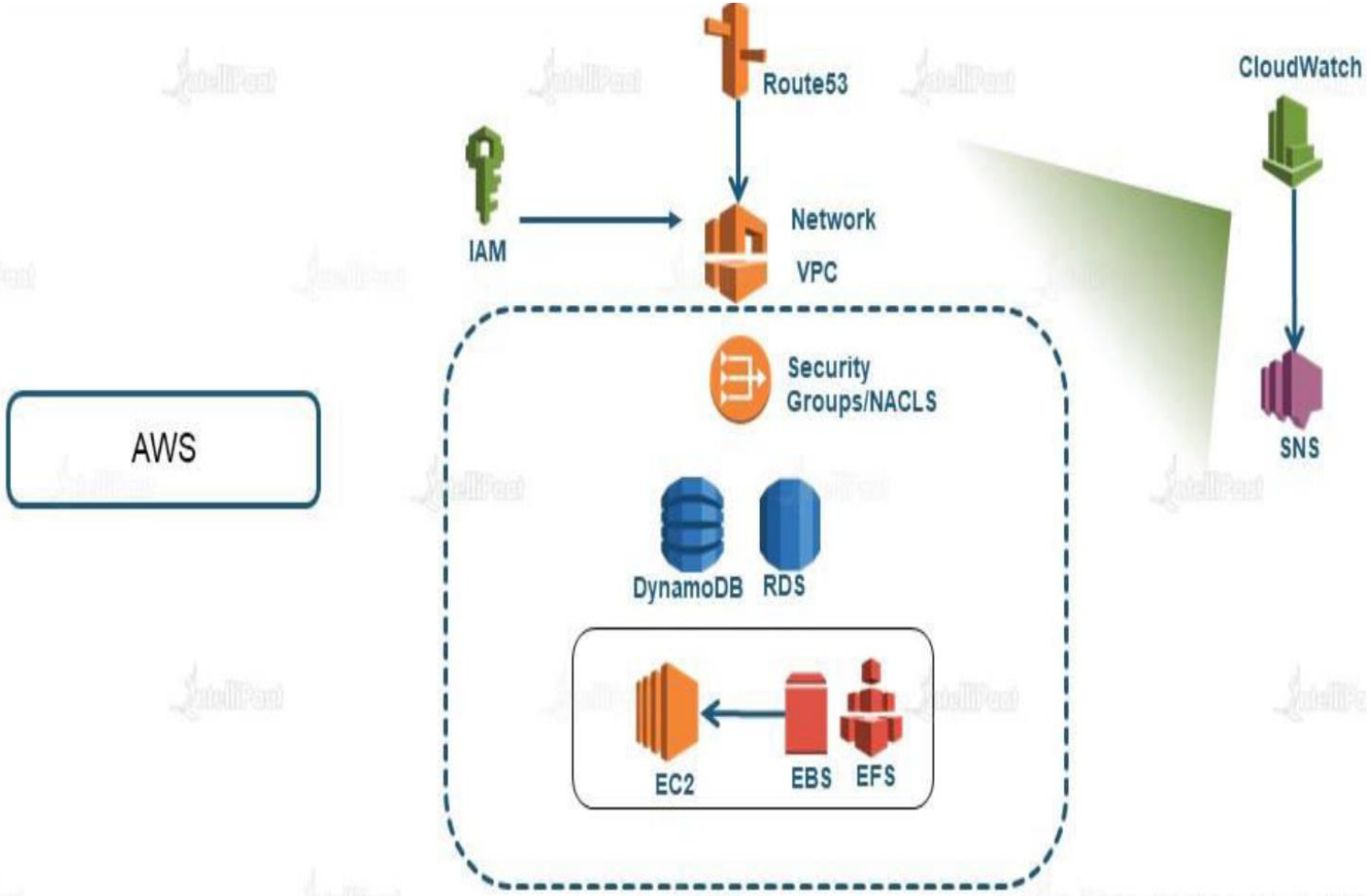


AWS Suite

AWS Suite


Corporate Data Center
www
Domain
Monitor
Network
firewall
Notification
Database
Users
Server
Storage

AWS Suite


Route53
CloudWatch
IAM
Network
VPC
Security
Groups/NACLS
AWS
SNS
DynamoDB
RDS
EC2
EBS
EFS

Starting off with AWS

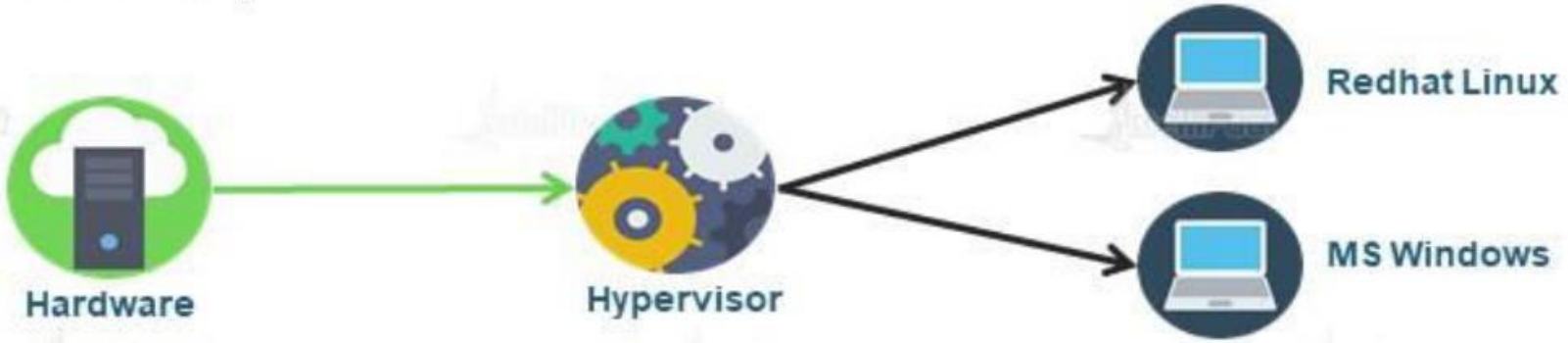
Creating an AWS account

1. Open AWS website - https://aws.amazon.com/
2. Click on create an AWS account
3. Type all the required details and give continue
4. In the Payment page, provide your card details to authenticate your account (2 INR will be debited and refunded back after authentication)
5. Now Login and open the AWS management console
6. You are now ready begin with hands-on in the further modules

Virtualization in AWS

- **Types of Hypervisor**
  - **TYPE-2 (Hosted)**

  - **TYPE-1 (Native/Bare Metal)**



XEN Hypervisor

- Xen Project is a hypervisor using microkernel design
- Was launched in October 2003 by University of Cambridge Computer Laboratory
- Leading open source virtualization platform which is powering the biggest players in cloud today
- AWS, RackSpace, OpenStack, Verizon Cloud etc. use Xen
- For more information visit – https://www.xenproject.org
- KVM is also used in some places

Summary

- In the simplest terms, Cloud Computing is storing and accessing data and programs over the internet
- Few benefits of cloud computing are Better scalability and improved security are
- Deployment and service models
- AWS services – Compute, Networking, Storage and Database
- Major cloud providers – AWS, Azure and GCP