

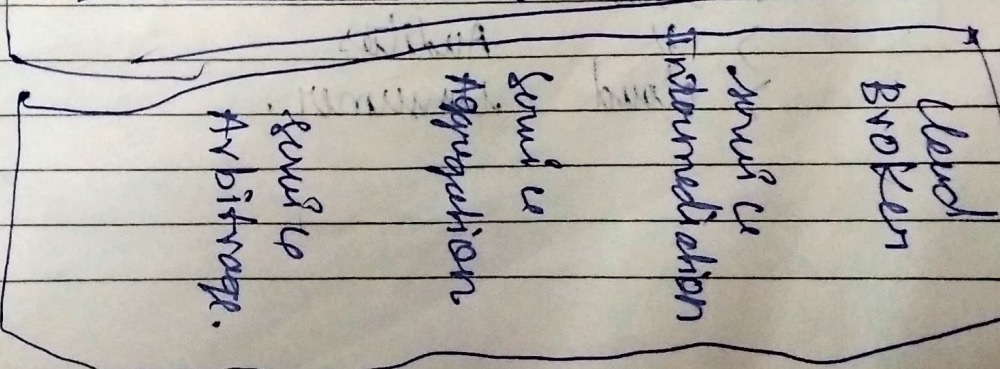
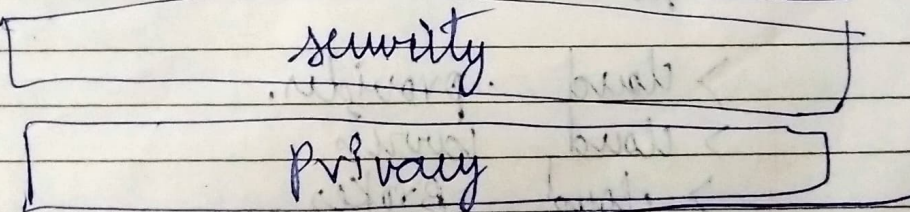
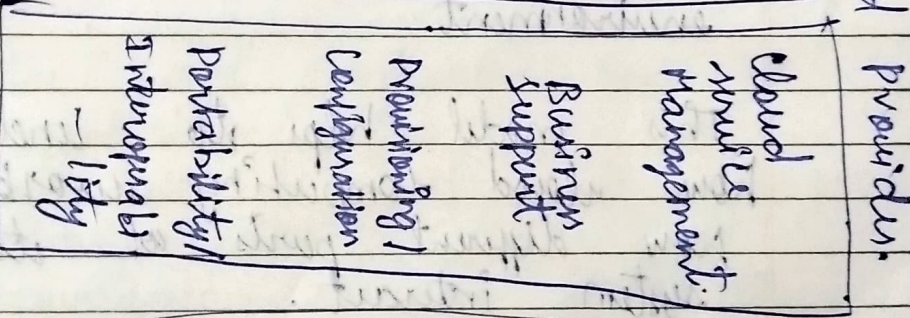
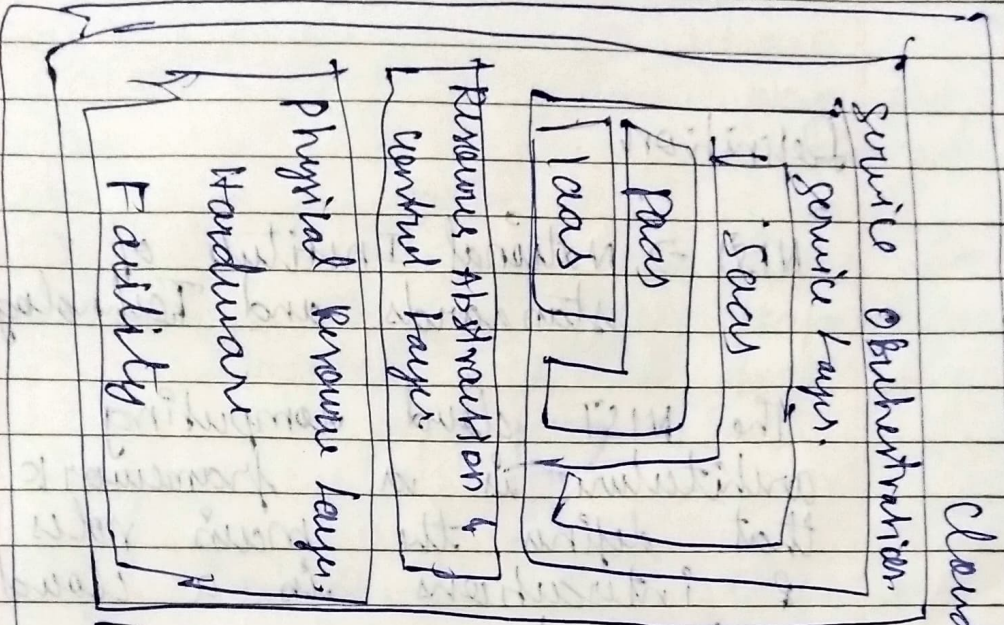
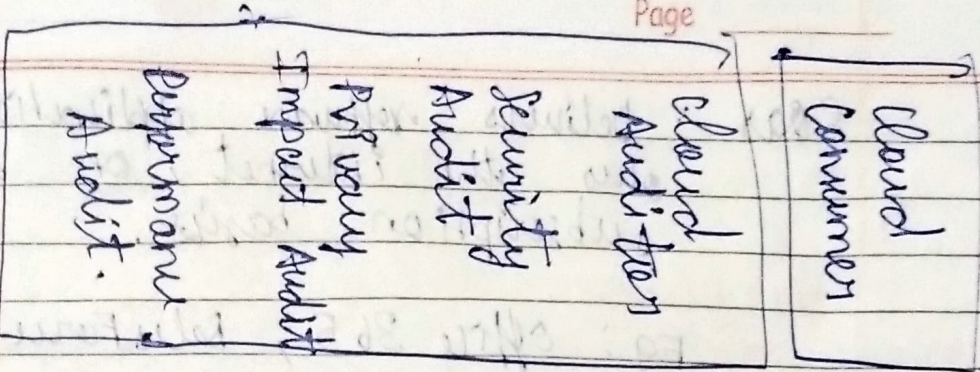
Definition :-

NIST → National Institute of standards and Technology.

The NIST cloud computing architecture is a framework that defines the main roles & interactions in a cloud environment.

This model helps to understand how cloud computing works & how different parts of the system interact.

- > cloud provider,
- > cloud carriers
- > cloud Brokers
- > " Audites
- > cloud consumer.



Cloud services

1) NIST Architecture :

1) cloud Service Providers :

> A group that delivers cloud services to the cloud consumers.

> cloud computing consumers purchase a growing variety of cloud services from cloud service providers.

IaaS provider: In this mode the cloud service providers offer Infrastructure components. These components consists of servers, networking, and storage as well as the virtualization Layer.

SaaS Provider: It provide a wide sequence of business Technologies such as Human resources Management (HRM) software, customer relationship management.

PaaS providers: It offer cloud infrastructure and services that can access to perform many functions. In PaaS services & products are mostly utilized in software development. It provide more services than IaaS.

2) cloud carrier: It is the mediator which provides connectivity and transport of cloud services within cloud service provider and cloud consumers.

cloud carriers provide access to consumers through n/w, telecommunication and other access devices.

A consistent level of services is provided when cloud providers set up a service level Agreements (SLA) with cloud carriers.

3) cloud Broker: A organization that manages the performance, use and delivery of cloud services.

It combines and integrates various services into one or more new services.

there are major other services offered by a cloud broker:

> service Intermediation (SI)

> Aggregation (SA)

> Arbitrage (SAB)

SI → It enhances a given service by improving some specific capability & providing value-added services to cloud consumers.

SA → It combines & integrates multiple services into one or more new services.

SAI → It is similar to service Aggregation, except that the services being aggregated are not fixed.

4) Cloud Auditor:

> A cloud auditor is a party that can perform an independent examination of cloud service controls.

> It can evaluate the services provided by a cloud provider in terms of security controls, privacy impact, performance, etc.

> Security Audit

> Privacy Impact Audit

> Performance

5) Cloud consumers

> It is the end-user who ~~brrows~~ utilizes the services provided by cloud service providers.

> The cloud consumers pay per use of the service provisioned.

> Cloud consumers need SLAs to specify the technical performance requirements fulfilled by a cloud provider.

Cloud services on cloud consumer:

> The SaaS / consumers can be organizations.

> IaaS provides virtualized computing resources over the Internet.

Eg: AWS ^{EC2}, Google compute engine.

> PaaS provides a platform allowing customers to develop, run & manage Applications.

Eg: Google App Engine, AWS Elastic Beanstalk.

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SaaS : Delivers software applications
over the internet, on a
subscription basis.

Eg: Office 365, Sales Force.