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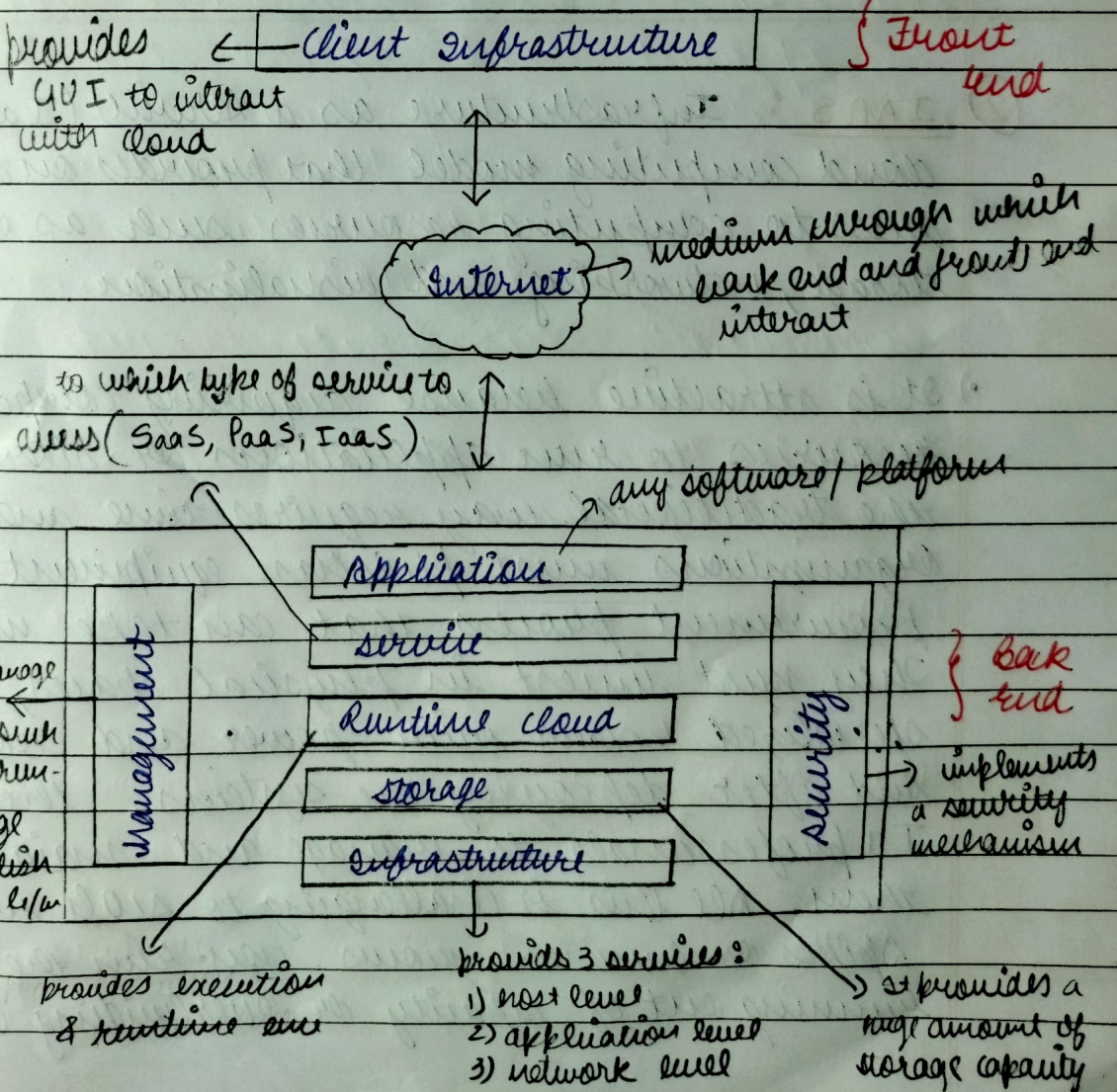
① Cloud computing architecture:

•) As we know, cloud computing technology is used by both small and large organizations to store the information in cloud and access it from anywhere at anytime using the internet connection.

•) It is a combination of service oriented architecture and event driven architecture.

•) It is divided into following 2 parts:

1) Front End
2) Back End



- **Front end:** The front end is used by the client. It contains client-side interfaces and applications that are required to access the cloud computing platforms. The front end includes web servers, thin and fat clients, tablets and mobile devices.

- **Back end:** The back end is used by the service provider. It manages all the resources that are required to provide cloud computing services. It includes a huge amount of data storage, security mechanism etc.

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(2) **IAAS:** Infrastructure as a Service (IaaS) is a cloud computing model that provides on demand access to computing resources such as servers, storage, networking and virtualization.

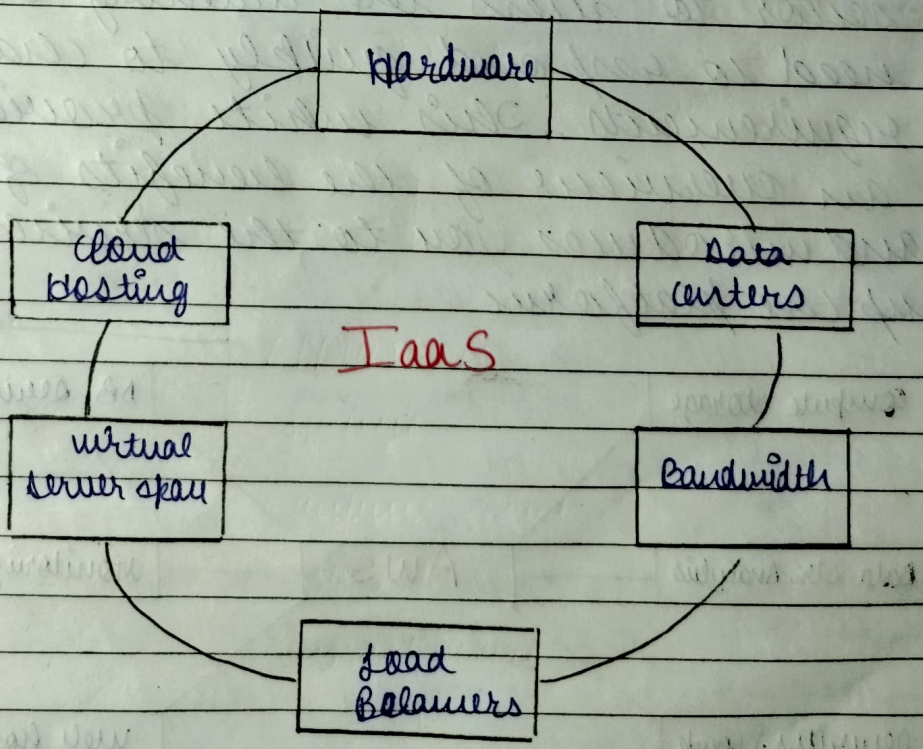
- It is attractive because acquiring computing resources to run applications or store data the traditional way requires time and capital. Organizations must purchase equipment through procurement process that can take months. They must invest in physical spaces, typically specialized rooms with power and cooling. And after deploying the systems, they need IT professionals to manage and maintain them. All this is challenging to scale when demand spikes or business grows. You run the risk of running out of capacity or overbuilding and paying

for infrastructure that you will never use.

- It is the on-demand availability of highly scalable computing resources as services over the internet. It eliminates the need for enterprises to procure, configure or measure manage the infrastructure themselves, and they only pay for what they use.

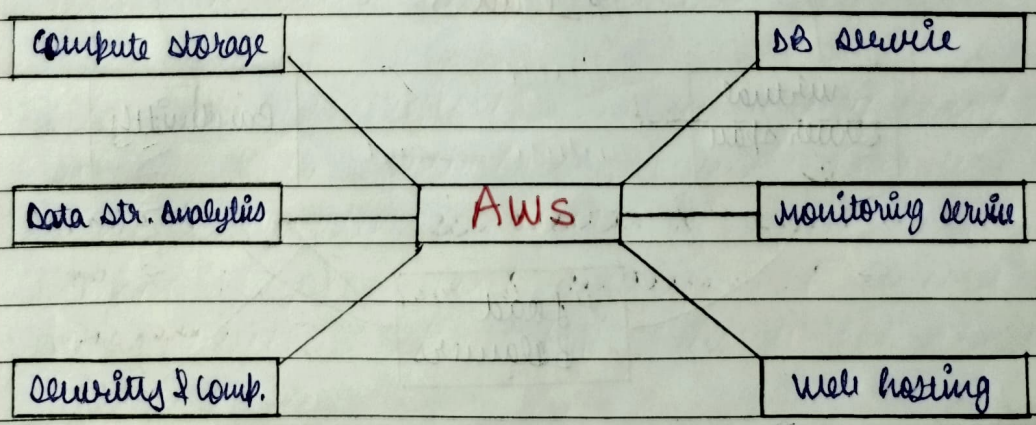
- It manages : 1) Applications
  2) Data
  3) Runtime
  4) Middleware
  5) O/S

- It delivers the followings :



③ AWS: It is the abbreviation used for, Amazon web services. It offers a broad set of global cloud based products including compute, storage, databases, analytics, networking, mobile, developer tool, management tools, IoT, security, and enterprise applications: on demand, available in seconds, with pay-as-you-go pricing. From data warehousing to deployment tools, directories to content delivery, over 200 AWS services are there to avail.

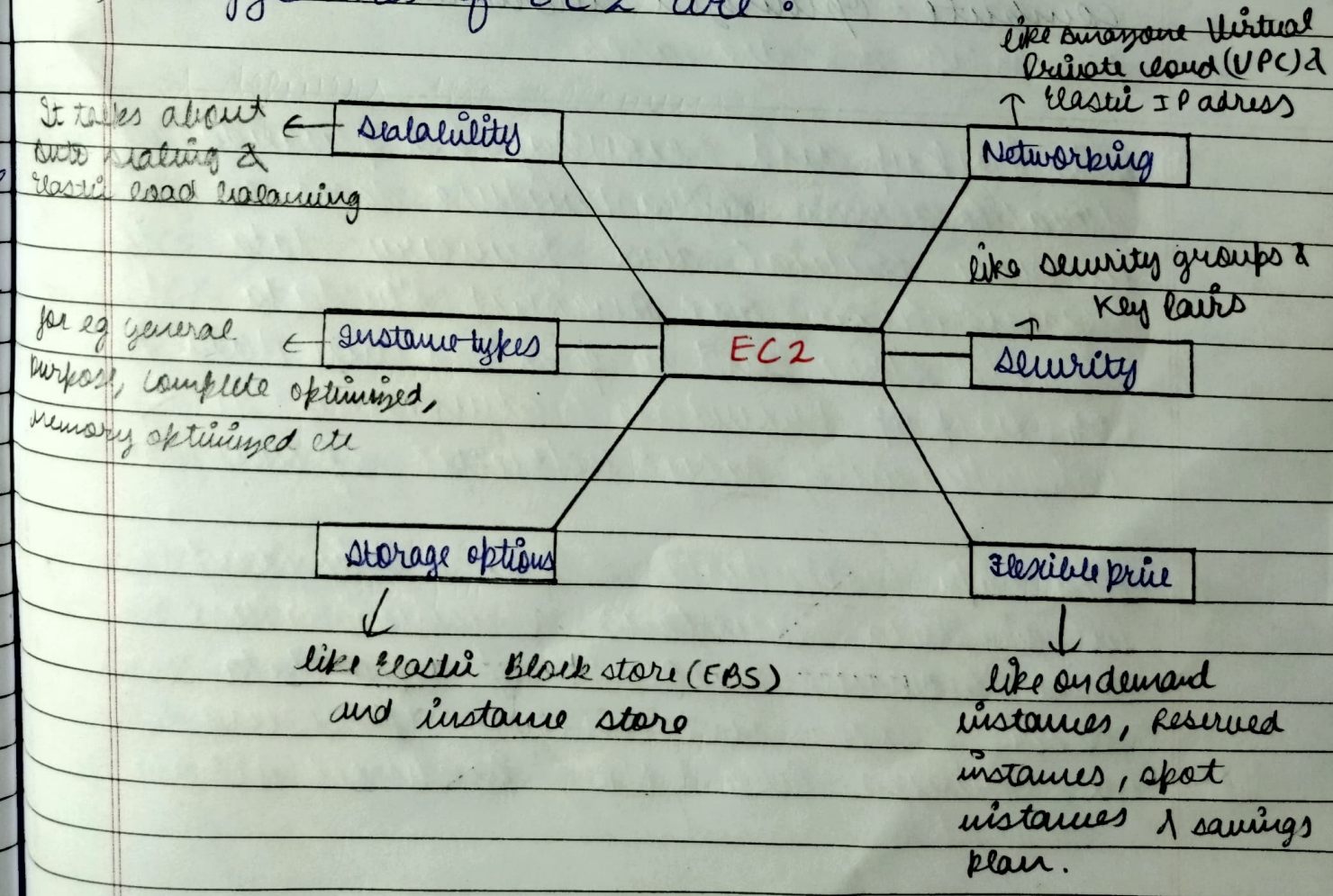
• New services can be provisioned quikly, w/o the upfront fixed expense. This allows enterprises, start-ups, small and medium-sized businesses, and customers in public sector to acess the building blocks they need to respond quikly to changing business requirements. This white provides you with an overview of the benefits of the AWS cloud and introduces you to the services that make up the platform



④ EC2 : It is an abbreviation used for elastic compute cloud. It is a web service that provides resizable compute capacity in the cloud, making web scale cloud computing easier for developers.

- It is designed to enable designed to enable developers to configure and scale computing capacity with minimal friction. By offering a variety of instance types tailored to different use cases, EC2 provides the flexibility to choose the right mix of resources for our application

- Key features of EC2 are :



•) It has used cases as :

1) Web Applications : Host scalable and resilient applications using EC2, Auto scaling, and elastic load Balancing to ensure high availability.

2) Machine Learning : Leverage EC2 instances with powerful GPU's for training and deploying ML models.

3) High Performance Computing (HPC) : Perform complex simulations, financial modeling or any other compute-intensive tasks using compute-optimized instances.