**CLOUD: -** A network of remote servers hosted on the internet to store, manage, and process data, rather than using a local server or a personal computer

* **PUBLIC CLOUD: -** Services are delivered over the public internet and shared across organizations. Examples: -AWS, Google Cloud Platform, and Microsoft Azure.
* **PRIVATE CLOUD:** -Services are maintained on a private network, typically for a single organization, offering greater control and security. Examples: -VMware and OpenStack.

**AWS SERVICES:** -

* **IAM (Identity and Access Management): -** It provides centralized control over AWS accounts, allowing us to manage users, groups, roles, and permissions. we can access what resources the user is using within our AWS environment
* **USERS: -** Individual identities used for authentication when accessing AWS services and resources.
* **GROUPS: -** Collections of users that share the same set of permissions, making it easier to manage permissions for multiple users simultaneously.
* **POLICIES: -** permissions are attached to users, groups, or roles to specify what actions they can perform on which AWS resources.
* **ROLES: -** IAM identities that can be assumed by AWS resources, such as EC2 instances or Lambda functions, to access other AWS services securely.
* **EC2(Elastic Cloud Compute): -** A virtual machine which has the resources that a physical server has. Like memory, CPU, storage etc.
* We can install a hypervisor on top of the physical server to create a multiple virtual machine

1. **GENERAL PURPOSE EC2 INSTANCE**
2. **COMPUTE OPTIMIZED EC2 INSTANCE**
3. **MEMORY OPTIMIZED EC2 INSTANCE**
4. **STORAGE OPTIMIZED EC2 INSTANCE**
5. **ACCELERATED COMPUTE EC2 INSTANCE**

* Inorder to create an EC2-instance and connect, the following fields are mandatory

1. Click on **LAUNCH INSTANCE**
2. Give the **NAME**
3. Select **OPERATING SYSTEM**
4. Select **INSTANCE TYPE**
5. Give the **KEY-PAIR VALUE (Combination of public and the private key)**
6. Select **RSA as KEY PAIR TYPE and give the KEY PAIR NAME**
7. Then select **.PPK{Only for PUTTY} OR .PEM{For OpenSSH(**ex: - MobaXterm**)}**
8. Then click on **LAUNCH INSTANCE**
9. Use “**ssh -i example.pem ubuntu@public\_ip\_of\_ec2instance**” to connect to an ec2 instance through **OpenSSH.** For this we need to be in the location where this particular .pem file exists
10. If it shows “permissions are too open” then change the permissions of the .pem file using **chmod 777 filename**