Cloud computing can be defined as the practice of using a network of remote servers over the Internet, rather than local servers or dedicated computers, to store, manage, and process data. Companies that provide such cloud services are called cloud providers and typically charge a per-use fee for cloud computing services. Grids and clusters are the foundation of cloud computing. Services (PaaS)Infrastructure as a Service (IaaS)Everything/Everything as a Service (XaaS)Functions as a Service (FaaS)These are sometimes called cloud computing stacks because they are built on top of each other. Knowing what they are and how they differ can help you achieve your goals. These layers can be viewed as tiers in which higher services can be built from lower services, such as SaaS providing infrastructure. Software as a Service (SaaS)Software as a Service (SaaS) is a method of delivering services and applications over the Internet. We do not need to install and manage the software, we just need to log into the network, relieving ourselves of the complex software and hardware management. It eliminates the need to install and run applications on our own computers or data centers, eliminating the cost of hardware and software maintenance. SaaS provides complete software that you can purchase from cloud providers on a pay-as-you-go basis. Most SaaS applications can be run directly from a web browser without the need to download or install them. SaaS applications are sometimes called web-based software, on-demand software, or hosted software. SaaS BenefitsCost-Effectiveness: Pay only for what you use. A web browser runs most SaaS applications without downloading or installing software. This reduces the time spent on setup and configuration, and can reduce the hassle of software deployment. SaaS service providers continue to update. Big Business, Eloqua, dropBox, and Cloud Tran. SaaS Disadvantages:Limited customization: SaaS solutions are typically not customizable as on-premises software, meaning users can work within the limitations of the SaaS provider's platform and cannot be customized. Ability to customize customized software to their specific needs. This can be problematic for users in areas without internet connectivity or for users who need to access the software offline. There are also security concerns. There may be other reasons for the problem. PaaS services are hosted in the cloud, and users only need to access them through a web browser. PaaS providers provide hardware and software services over their own infrastructure. Thus, PaaS allows users to create or run new applications without installing hardware and software. Therefore, applications are built and delivered independently of hardware. Customers do not manage or control the underlying cloud infrastructure, including networks, servers, operating systems or storage, but they have control over the applications used and can be configured in the application hosting environment. Simply put, take daily work as an example, you have two options, build a place or rent a place, but the work is the same. Convenience:

It provides various infrastructure and other IT services that users can access from anywhere via a web browser. and software. This makes the overall development of the application more efficient. Disadvantages of PaaS:Lack of control over the process: PaaS providers usually control the core process and are responsible for monitoring and updating, but this also means that the user has no control over the process. environment. . may be less and some changes may not be possible. take risks.

Infrastructure as a Service

Infrastructure as a service (IaaS) is a service model that delivers computer infrastructure on an outsourced basis to support various operations. Typically IaaS is a service where infrastructure is provided as outsourcing to enterprises such as networking equipment, devices, database, and web servers.

It is also known as **Hardware as a Service (HaaS).** IaaS customers pay on a per-user basis, typically by the hour, week, or month. Some providers also charge customers based on the amount of virtual machine space they use.

It simply provides the underlying operating systems, security, networking, and servers for developing such applications, and services, and deploying development tools, databases, etc.

Advantages of IaaS:

1. **Cost-Effective:** Eliminates capital expense and reduces ongoing cost and IaaS customers pay on a per-user basis, typically by the hour, week, or month.
2. **Website hosting:** Running websites using IaaS can be less expensive than traditional web hosting.
3. **Security:** The IaaS Cloud Provider may provide better security than your existing software.
4. **Maintenance:** There is no need to manage the underlying data center or the introduction of new releases of the development or underlying software. This is all handled by the IaaS Cloud Provider.

The various companies providing *Infrastructure as a service* are Amazon web services, Bluestack, IBM, Openstack, Rackspace, and Vmware.

Disadvantages of IaaS :

1. **Limited control over infrastructure:** IaaS providers typically manage the underlying infrastructure and take care of maintenance and updates, but this can also mean that users have less control over the environment and may not be able to make certain customizations.
2. **Security concerns**: Users are responsible for securing their own data and applications, which can be a significant undertaking.
3. **Limited access:** Cloud computing may not be accessible in certain regions and countries due to legal policies.