People easily confuse the concepts of virtualization and cloud computing because both refer to making the right environment from an abstract view. However, there is a thin line of difference between the two terms.

## Difference between cloud and virtualization

In simpler terms, virtualization is a technology, while cloud computing is a methodology. However, on a broader scope, you can draw a comparison between cloud computing and virtualization in the following terms:

### Purpose

#### Virtualization:

Its purpose is to create multiple environments from a single physical hardware system. The hypervisor connects directly to the hardware and splits the system into unique and secure environments known as virtual machines.

#### Cloud:

The vital purpose is to automate and pool virtual resources for the users on their demand through self-service portals. It is supported by automatic scaling and dynamic resource allocation.

### Use

#### Virtualization:

It delivers packaged resources to specific users who use it for a particular purpose. The hypervisor is responsible for managing the resources appropriately. It is his job to separate the resources from hardware and then package and distribute them as required.

#### Cloud:

The main use of cloud computing is to deliver variable resources to a group of users, which can be used for various purposes. It is a set of principles and approaches which delivers computer networks and other resources to the user on their demand.

### Cost

#### Virtualization:

It a high capital expenditure but has low operating expenses. Thus, if you invest in it once, it can operate on low expenses in the future as it requires less maintenance.

#### Cloud:

There are two types of cloud: private cloud and public cloud; both vary in cost. A private cloud has high capital expenditure and low operating expenses, just like virtualization. However, a public cloud has low capital expenditures and high operating expenses.

## Other minor differences

Some other small key things differentiate between cloud computing and virtualization.

### Configuration

Virtualization is image-based, whereas cloud is template-based.

### Lifespan

Virtualization has longer life as compared to cloud computing. Virtualization lasts years (long-term); on the other hand, the cloud is short-term and can only last from hours to months.

### Scalability

Virtualization is scale-up, whereas cloud is scale-out.

### Workload

Virtualization is stateful, whereas cloud is stateless.

### Tenancy

Virtualization has a single tenant; on the other hand, the cloud has multiple tenants.

## Conclusion

If you thought that virtualization and cloud computing are identical, then wipe away your thoughts now because both stand as two different things.