**Virtualization**is used to create a virtual version of an underlying service With the help of Virtualization, multiple operating systems and applications can run on the same machine and its same hardware at the same time, increasing the utilization and flexibility of hardware. It was initially developed during the mainframe era.

It is one of the main cost-effective, hardware-reducing, and energy-saving techniques used by cloud providers. Virtualization allows sharing of a single physical instance of a resource or an application among multiple customers and organizations at one time. It does this by assigning a logical name to physical storage and providing a pointer to that physical resource on demand. The term virtualization is often synonymous with hardware virtualization, which plays a fundamental role in efficiently delivering Infrastructure-as-a-Service (IaaS) solutions for [cloud computing](https://www.geeksforgeeks.org/cloud-computing/). Moreover, virtualization technologies provide a virtual environment for not only executing applications but also for storage, memory, and networking.