**Cloud computing** is "a paradigm for enabling network access to a scalable and elastic pool of shareable physical or virtual resources with self-service provisioning and administration on-demand," according to [ISO](https://en.wikipedia.org/wiki/International_Organization_for_Standardization).[[1]](https://en.wikipedia.org/wiki/Cloud_computing#cite_note-:0-1) It is commonly referred to as "the cloud".[[2]](https://en.wikipedia.org/wiki/Cloud_computing#cite_note-2)

**Characteristics**

In 2011, the [National Institute of Standards and Technology](https://en.wikipedia.org/wiki/National_Institute_of_Standards_and_Technology) (NIST) identified five "essential characteristics" for cloud systems.[[3]](https://en.wikipedia.org/wiki/Cloud_computing#cite_note-nist-3) Below are the exact definitions according to NIST:[[3]](https://en.wikipedia.org/wiki/Cloud_computing#cite_note-nist-3)

* On-demand self-service: "A consumer can unilaterally provision computing capabilities, such as server time and network storage, as needed automatically without requiring human interaction with each service provider."
* Broad network access: "Capabilities are available over the network and accessed through standard mechanisms that promote use by heterogeneous thin or thick client platforms (e.g., mobile phones, tablets, [laptops](https://en.wikipedia.org/wiki/Laptop), and workstations)."
* [Resource pooling](https://en.wikipedia.org/wiki/Pooling_(resource_management)): " The provider's computing resources are pooled to serve multiple consumers using a multi-tenant model, with different physical and virtual resources dynamically assigned and reassigned according to consumer demand."
* Rapid elasticity: "Capabilities can be elastically provisioned and released, in some cases automatically, to scale rapidly outward and inward commensurate with demand. To the consumer, the capabilities available for provisioning often appear unlimited and can be appropriated in any quantity at any time."
* Measured service: "Cloud systems automatically control and optimize resource use by leveraging a metering capability at some level of abstraction appropriate to the type of service (e.g., storage, processing, bandwidth, and active user accounts). Resource usage can be monitored, controlled, and reported, providing transparency for both the provider and consumer of the utilized service.