Cloud Computing Basics

A Beginner's Guide

Table of Contents

Overview

This Cloud Computing handbook will be a comprehensive guide for professional individuals to get an idea about cloud computing as well as its industrial applications. Cloud computing is useful and facilitates the applications and data from any location globally through any platform and offers businesses with scalable computing resources.

This handbook covers the following topics:

- Introduction To Cloud Computing And Why You Need To Learn It

- Industry Importance And Applications Of Cloud Computing

- Career Progression In Cloud Computing

- Relatable Real-Life Examples Of Cloud Computing

- Key Terminologies Used In The Cloud Computing

- Skills Required To Build A Career In Cloud Computing And The Tools To Be Learnt

- How Simplilearn Offers Courses On Cloud Computing – Get Started With Simplilearn

What Is Cloud Computing?

Cloud computing is the delivery of IT services through the internet on-demand with a pay-as-you-go pricing model. With the help of cloud computing, you can access IT resources, such as several tools and applications, data storage, servers, databases, and software from a cloud service provider such as Amazon Web Services (AWS). Cloud-based storage makes it achievable to save files in the remote database, not stressing much on your local system and can be accessed with a compatible device or software program.

In recent times, the popularity of cloud computing has increased for businesses due to several reasons, such as cost savings, increased productivity, the enhanced speed with better efficiency, performance, as well as security.

Along with Amazon Web Services (AWS), Salesforce's CRM system and Microsoft Azure are also popular public cloud offerings. Moreover, businesses are now using more than one cloud service for exemplary features.
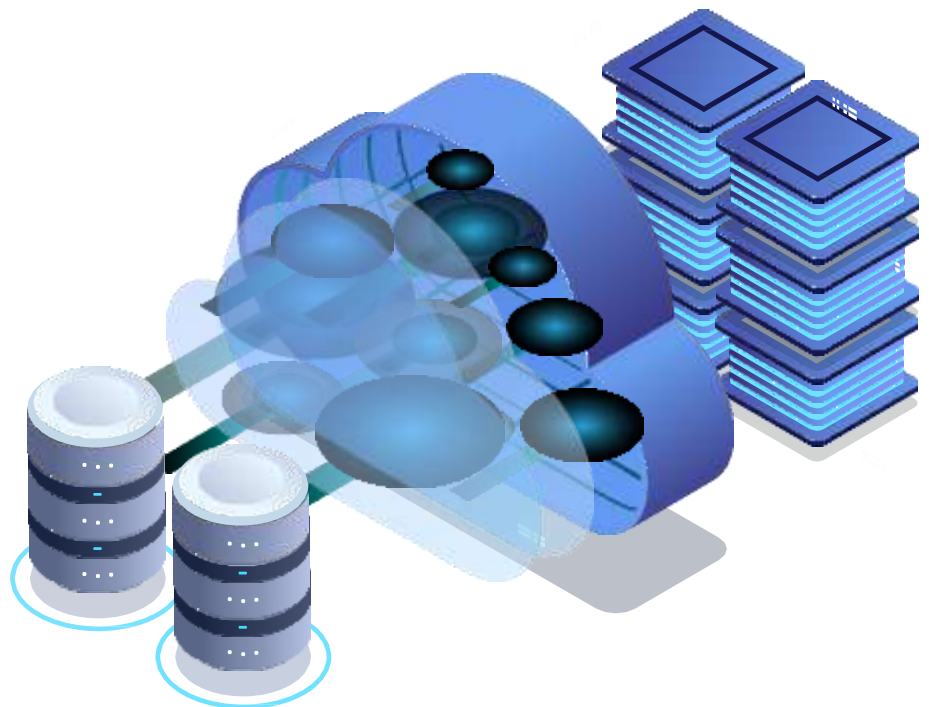
Why Do You Need To Learn Cloud Computing?

Due to its increasing popularity, companies around the world are in search of more cloud computing experts, as more organizations are now switching from the classical server infrastructure to cloud solutions to implement critical applications.

Cloud computing helps you innovate new programming methods to develop and deploy application access to the users, plus you can provide this to your customers as a service.

With three business models: Platform as a Service (PaaS), software as a Service (SaaS), and Infrastructure as a Service (IaaS), it is likely that in future, the system and network administrator jobs will be replaced if you are not updated with your skills. Cloud computing is helping businesses automate and configure their systems, as many are now transforming their onsite data center to clouds. Hence, there will be a huge demand for experts configuring Cloud Computing Infrastructure and APIs into their applications and storage.

Learning cloud computing is beneficial in the IT field too, helping you invent new applications and software, gaining you better career opportunities, as well as business in clouds. It helps you gain a hand at infrastructure development and integration, billing methods, private and public cloud, secure document sharing, storage, backup and recovery, etc.
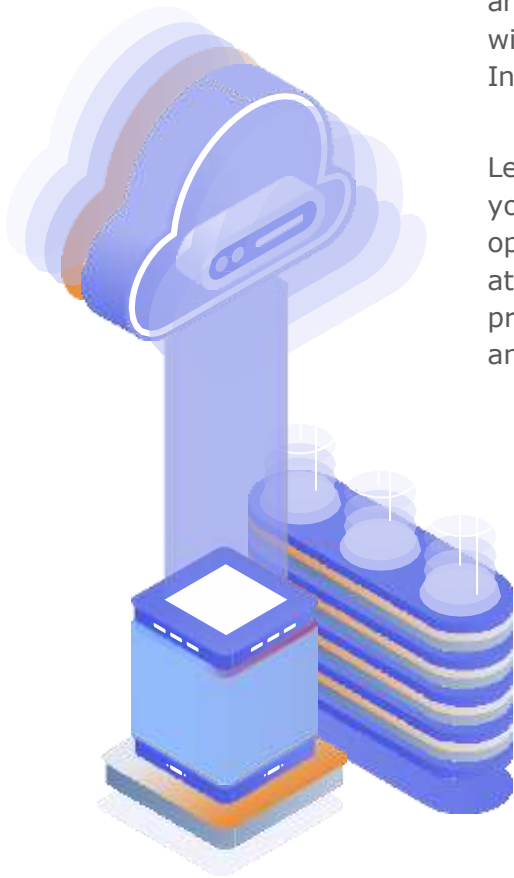
Career Progression In Cloud Computing

With cloud becoming an intrinsic part of the market, the demand for Cloud Engineers is on the rise with every passing day. Companies are willing to pay thousands of dollars to cloud architects who can maintain their cloud-hosted systems.

It opens the doors to many career opportunities, listed as below, which you can opt for based on your qualification and experience:

- Cloud Solution Architect

- Cloud Developer Engineer

- Cloud DevOps Engineer

- Cloud System Engineer/ Administrator

- Cloud SysOps Administrator

- Cloud Network Engineer

- Cloud Network Security Engineer

- Cloud Product Manager

- Cloud Consultant

Industry Applications Of Cloud Computing

As more industries adopt the cloud into their infrastructure, they can reap the benefits of general cloud solutions to serve multiple verticals.

Here is a list of the top industry applications of cloud computing to give you an idea of its potential, and the major industry verticals it can serve:

Education

Educational institutions can be benefited from cloud-based solutions suitable for both the staff employees and students. Faculty and IT departments can keep students' data securely. Students can access the information, collaborate with teachers, and have great education experience.

Healthcare

Safety, security, and privacy are the major concerns of a healthcare industry that is adequately taken care of by cloud solutions. Doctors can now access the patient's medical history, and the solutions abide by HIPAA compliance for proper treatment and diagnosis.

Automotive

The automotive industry needs data availability as they want to give information about their inventory as well as accessible locations for dealing with the clients and giving them better customer service. Having a common cloud environment for both automotive suppliers and manufacturers can be beneficial.

Finance

Recently, many financial organizations, such as banks and insurance firms, have adopted SaaS programs to keep track of records and handle back-office tasks. Capital markets implement cloud-powered AI to help them in device investment strategies and financial data management.

Manufacturing

Cloud solutions can be beneficial for manufacturing businesses and can also be helpful in enterprise resource planning (ERP) to migrate your business management practices to the cloud. For the orders to be funneled, it can do so at ease and quickly employ useful channels.

This is the list of the top five industrial applications of cloud computing, which is the most profitable sector of today. But, the list doesn't end here; the application of cloud computing can be furthermore extended to real estate, law, production, hospitality, and non-profit organizations.

Real-Life Examples Of Cloud Computing

Cloud computing is a software model that provides access to shared pools of storage, networks, servers, and applications with ease of installation, low maintenance, and scalability.

Cloud Storage

With the increasing need to store data and to find space in the cloud for the same, the number of cloud storage providers have increased tremendously. Listing a few are Dropbox, Gmail and Facebook. Amongst these, Dropbox, being the leader in the cloud storage, allows storage of approximately one terabyte. Gmail also provides unlimited cloud storage and has also revolutionized email-sending, whereas Facebook has its virtue and offers infinite information storage in the form of images and videos that can be accessed from multiple devices. It also provides a Messenger app that allows the exchange of data.

Business Communication

Cloud Computing provides SaaS tools used by teams and companies for collaborations and passing on group messages initiated by individuals and teams to provide details of a project to ensure everybody has access to the information and can actively communicate during the meetings and put their points forward. One of such tools is Slack also enables features such as video chatting and file-sharing as well as integrating other cloud facilities such as Dropbox, and Salesforce for more storage and better CRM.

Data Management

Cloud Computing is also helpful for business giants manage their cloud-based apps by providing frameworks for handling large chunks of data and business automation and ensure that the data quality is kept intact as big data companies require massive amounts of data storage and analyzing the same. One such tool is Collibra which is capable of handling it profusely with added security for business records. It empowers enterprises to improve the quality of business decisions.

Belgium's largest telecommunications company, Proximus, has opted for Collibra for a long time to manage its data governance in a better way due to its high-end quality.

Marketing

Cloud computing offers Marketing Cloud Platforms that serve as end-to-end digital marketing platforms for clients to manage contacts and target leads to gaining conversion rates for their businesses.

Some of the emerging examples are Maropost, Hubspot, and Adobe Marketing Cloud. Maropost Marketing Cloud combines marketing automation, as well as leads targeting, and making sure that emails arrive in the inbox appropriately with its advanced email deliverability capabilities.

HubSpot offers a full platform of marketing, sales, customer service, and CRM software — plus the methodology, resources, and support — to help businesses flourish.

Online Streaming

One of the major examples of online streaming enabled cloud computing is Netflix, which offers scalable usage of resources with subscription fees. Online streaming sites utilize cloud computing for providing the same quality performance offline and online. It allows the content curators to make complex and robust interactive content. It ensures efficient usage of bandwidth as any user chooses to watch some peculiar content based on their preference and choice.

Along with Netflix, some other service providers of online streaming applications are HBO Now, Amazon Prime Video, Hulu, Sling Orange, etc.

Key Terminologies Used In Cloud Computing

The Internet is flooded with cloud terms, and there are some common terms one needs to know for understanding industry developments and future trends in cloud computing.

Below is a brief of some the key cloud computing terminologies:

Software as a Service (SaaS)

SaaS comprises software applications to be run on remote computers operated by others providing real-time information with no loss of data.

Platform as a Service (PaaS)

PaaS is a cloud-based environment that supports building and deploying cloud-based applications, eliminating the need to purchase hardware, software, management, and hosting tools.

Infrastructure as a Service (IaaS)

IaaS is a business model where businesses provide several computing resources, such as servers, storage, networks, and data centre spaces.
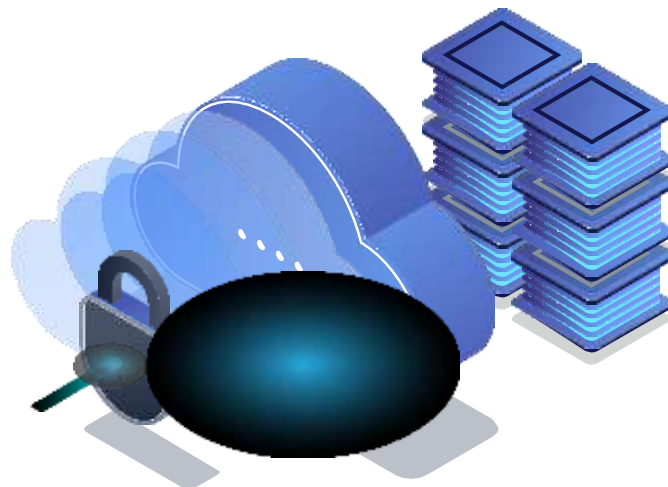
Anything as a Service (XaaS)

This is a generic term that refers to any cloud-related and enabled service available through the internet. It can be replicated with SaaS, DaaS, PaaS, and IaaS, etc.

Desktop as a Service (DaaS)

Desktop-as-a-service (DaaS) is a virtual desktop infrastructure (VDI), where VDI is outsourced and handled by a third-party vendor and is also sometimes called 'hosted desktop services'.

Cloud Storage

A service that allows internet users to save data by transferring it over the internet or another network to a third-party offsite storage system.

Private Cloud

This is the part of the cloud that is meant for a certain organization for its usage. It gives added security in contrast to the public cloud.

Public Cloud

These are parts of the cloud that are owned and run by companies that provide accessibility of computing resources to the general public.

Hybrid Cloud

The term hybrid cloud utilizes private cloud infrastructure along with public cloud services that most companies are shifting towards.

Cloud Provider

An organization that offers a cloud-based platform, infrastructure, application, or storage services to other organizations or individuals in exchange for a price.

Cloudsourcing

It is transforming conventional IT services with cloud services.

Cluster

It is a chunk of linked computers that work closely together, similar to a single computer, for higher availability and load balancing.

External Cloud

Public or private cloud services that are offered by a third-party source, outside one's company.

Hosted Application

An internet-based application or software program that runs on a remote server that can be accessed via an internet-connected PC.

OpenStack

OpenStack is a free, open-source cloud platform that is primarily deployed as an Iaas offering on the cloud.

Subscription-Based Pricing Model

A pricing model that lets customers pay a fee to use the SaaS services for a particular period.

Vendor Lock-In

It refers to locking in of a particular cloud vendor and finding it difficult to move from one cloud vendor to another due to lack of standardized protocols, APIs, data structures (schema), and service models.

Vertical Cloud

An optimizable cloud computing environment to be utilised in a particular industry for specified operations.

Cloudware

Software that enables creation, deployment, and running applications in the cloud.

Microsoft Azure

Microsoft cloud services that provide the platform, as a service business model, tending to developers creating cloud applications and services.

Skills And Tools Required To Build A Career In Cloud Computing

Cloud computing is one of the highly demanded technologies and always requires qualified professionals. Thus, to meet the criteria to bag the hottest job offers, the candidate needs to have a specific skill set that industries of almost all prime sectors are looking for.

Let's see what they are to get you started in the cloud computing career:

Programming Languages

There are some programming languages that you need to master to create cloud applications, which include Java, C, Python, Perl, Ruby, .net, as the application demand is so versatile, and the created end application must be robust as well as scalable. Along with learning the languages, you also need to master your coding skills.

Database Management

A person who can set-up, access and manage the databases is much in demand. Knowledge of a database query language and related database platforms is essential. For that, the developer needs to learn database languages such as SQL, MySQL, MongoDB, Hadoop, etc. to manage those large chunks of data.

Certification Courses

Industries prefer the candidate holding certifications from verified courses. Today, major service providers such as Amazon and Microsoft offer training and certifications such as AWS Certification, Azure Certification, and as well as Google Cloud Certification to build your credibility as a cloud professional. Simplilearn is one of those.

Artificial Intelligence (AI)

Artificial Intelligence and Machine learning are the game-changers in the field of cloud-based technology. With AI, you can get the edge of data integration, aggregation, and analysis without human assistance enhancing user experience. A professional with these two skills are obviously in great demand.

Cloud Platforms

A cloud professional must be in the most common cloud platforms such as Amazon Web Services (AWS), Google Cloud Platform and Microsoft Azure, which can greatly enhance their profile as well as leave a positive impression on the employer.
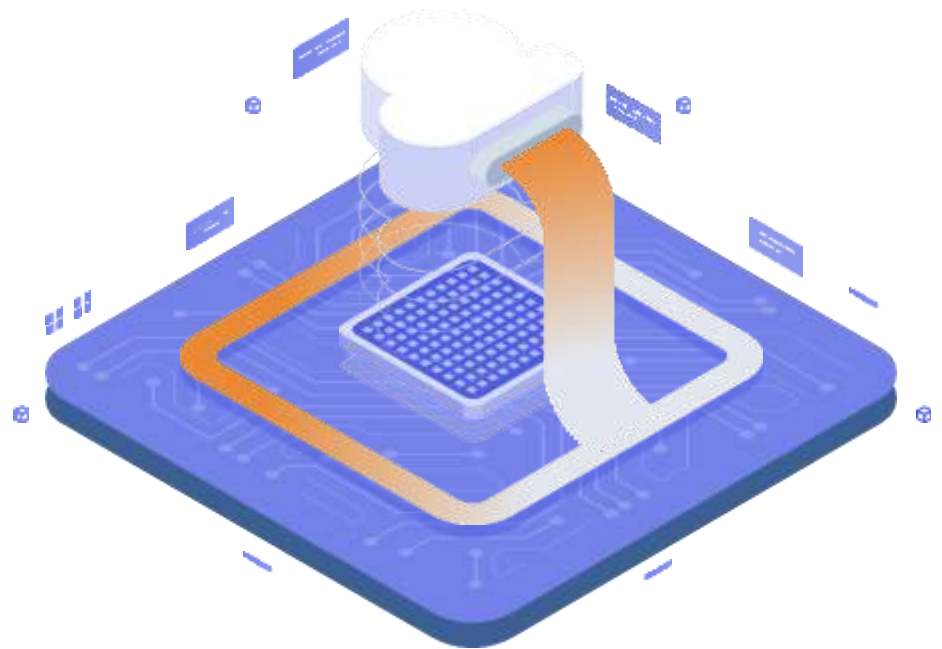
Get Started With Simplilearn: Courses Offered By Simplilearn

No matter how skillful you are at the learned tools and technologies, a certification will add more stars to your profile and help you gain knowledge about the most-recent skills contributing to your organization's success.

For making a mark in the cloud industry, a cloud computing course such as the Cloud Engineer Masters Program offered by Simplilearn can help your resume get noticed by recruitment companies. It also proves to your employers that you have the right cloud computing skills, knowledge, and expertise for the job.

Cloud Computing Master's Program has a Master's Program and comprises 11courses for Cloud Architect, 5 courses for AWS Cloud Architect as well as 5 courses for Azure Cloud Architect, better learned with expert professionals with guidance at every stage.

Other Cloud Computing Certifications and Trainings are as below:

- AWS Technical Essentials Certification Training course

- Microsoft Azure Fundamentals Training Course

- AWS Developer Associate

- AWS SysOps Associate

- AWS Solutions Architect

- Microsoft Certified: Azure Administrator Associate AZ-104

- Microsoft Certified Azure Developer Associate: AZ-204

- Microsoft Azure Architect Technologies: AZ-300

- Microsoft Azure Architect Design: AZ-301

- Google Cloud Platform Architect Training

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