Cloud Computing V2

Introduction to IBM Cloud

For an introduction to IBM Cloud, see the following YouTube video:

The IBM Cloud platform combines platform as a service (PaaS) with infrastructure as a service (IaaS) to provide an integrated experience. The platform scales and supports both small development teams and organizations, and large enterprise businesses. Globally deployed across data centers around the world, the solution you build on IBM Cloud spins up fast and performs reliably in a tested and supported environment that you can trust. The IBM Cloud platform is an enterprise-grade and full-stack platform that is purpose-built for data-intensive artificial intelligence (AI) workloads and cloud-native application suites that are delivered on a software-defined infrastructure (SDI). It is an open cloud computing platform that combines PaaS with IaaS, and includes a catalog of diverse cloud services, which can be used to build and deploy rapidly business applications or infrastructure.

- PaaS provides developers access to IBM software for integration, security, transaction, and other key functions, and software from IBM Business Partners. The application types can range from web, mobile, big data, and smart devices to the Internet of Things (IoT).
- IaaS gives developers fine-grained control over the infrastructure on which their apps are deployed. Developers can deploy high-performance, bare metal servers, virtual servers, containers, and cloud storage in IBM Cloud data center locations around the world.

The IBM Cloud platform is composed of multiple components that work together to provide a consistent and dependable cloud experience:

- A catalog that consists of hundreds of IBM Cloud offerings
- A robust console that serves as the front-end for creating, viewing, and managing your cloud resources.
- An IAM component that securely authenticates users for both platform services and controls access to resources consistently across IBM Cloud.
- A search and tagging mechanism for filtering and identifying your resources.
- An account and billing management system that provides exact usage for pricing plans and secure credit card fraud

- An account and billing management system that provides exact usage for pricing plans and secure credit card fraud protection.

- *Regions* are geographically separated from one another, and have a physically distinct infrastructure from all other regions and unrelated zones.
- *Zones* are logically isolated data centers within a single campus, each having isolated electrical, mechanical, and network infrastructures. Zones are separated physically from one another. Within a zone, resources are connected by ultra-low latency, high-bandwidth networks.

IBM Cloud offers many choices for you to decide where and how your data and workloads should run. IBM availability zone design provides an easier and more effective way to design and operate applications and databases, making them highly available, fault-tolerant, and scalable.

What can you build with IBM Cloud

The following components can be built in IBM Cloud:

- Infrastructure:
- In IBM Cloud, you can provision infrastructure that can host all kinds of data-intensive workloads.
- Hardware can be single-tenant (single customer) or multi-tenant (multiple customers sharing the hardware).
- Hardware is virtualized or software-defined.

- Applications:
- In IBM Cloud, you can build applications, which are the programs that developers build in the Cloud Foundry environment.
- You can build mobile apps that run outside the IBM Cloud environment and use services to which the mobile apps are

exposed.

- IBM Cloud can also host application code that the developer prefers to run on a back-end server in a container-based environment. English

- Services:
- A service is a cloud extension that is hosted by IBM Cloud. The service provides functions that are ready-for-use by the running the code of the application.
- The predefined services that are provided by IBM Cloud include database, AI, messaging, push notifications for mobile apps, and elastic caching for web applications.
- You can create your own services in IBM Cloud. The services can be simple utilities, such as the functions that you might see in a runtime library, or complex business logic that you might see in a business process modeling service or a database.