PaaS

Lesson 4: Open Source PaaS

Introduction

- When you're working in a smaller organization (typically, they don't have the engineering resources to manage, update, upgrade, and deploy multiple clusters), you can delegate the management of infrastructural components to a third party. This is essentially Platform as a Service

Widely Used Cloud Computing Services

▼ On-premise

When the engineering team has complete control over the platform (including the physical servers) [Examples: Amazon, Google, Microsoft]

▼ IaaS

The team uses compute, network, and storage resources from a vendor who manages the hardware [Example: Most organizations who use AWS, GCP, Microsoft Azure]

▼ PaaS

Smaller organizations that hand over the infrastructure management to a third-party provider

Services offered by a platform

- **Networking** - establish communication between internal and external systems, such as internet connection, firewalls, routers, and cables
- **Storage**- collect and store digital data, such as files, blocks, or objects
- **Servers** - physical machines that provide compute services for a platform
- **Virtualization** - abstracts physical servers, storage, and networking. For example, we have learned that hypervisors are used to virtualize servers.
- **O/S** - operating systems that connect the software to physical resources (e.g. Linux, Ubuntu, Windows, etc)
- **Middleware** - help the developers to build an application by making it easy to consume platform capabilities (e.g. messaging, API, data management)
- **Runtime** - execution context for an application. For example, using JVM (or Java Virtual Machine) as a Java runtime
- **Data** - tools for collection and storage of data that is required by an application during execution(e.g. MySQL, MongoDB, or CockroachDB)
- **Applications** - the business logic for a product