

Why do some IT managers look for Docker alternatives?



Here are some reasons for them to do so.

- 1. Firstly,** Docker is not easy to use. There is a steep learning curve.
- 2. Secondly,** persistent data storage is not straightforward which means you have to move data outside the container and securely store it.
- 3. Thirdly,** container orchestration requires a considerable amount of expertise in configuring and managing an orchestration tool such as Docker Swarm, Kubernetes or Apache Mesos.
- 4. Fourthly,** Docker containers require more layers to be secured when compared with a traditional stack.

All these factors add up to the administrative burden.

In case you are still curious about alternatives to Docker, here are the top 10 docker alternatives for your SaaS application:



Docker Alternatives 1: Serverless Architecture

Serverless architecture is a popular alternative to Docker containerization technology. As the name points out, a serverless architecture eliminates the need to manage a server or the underlying infrastructure to run an application.



Docker Alternatives 2: Virtual Machines (VMs) from VMware

Deploying virtual machines from VMware is another alternative for

Docker. VMware is the leader in the virtualization segment. While Docker abstracts resources at the OS level, VMware virtualizes the hardware layer.



Docker Alternatives 3: Monolithic instances from AWS, Azure and GCP

Another alternative to Docker is to deploy your monolithic applications using AWS instances or Azure and GCP VMs. When you implement an AWS EC2 instance, it will install the basic components of the OS and other required packages.



Docker Alternatives 4: Apache Mesos

Apache Mesos is an open-source container and data center management software developed by Apache Software Foundation. It was formerly known as Nexus. Mesos is written in C++. It acts as an abstraction tool separating virtual resources from the physical hardware and provides resources to apps running on it.



Docker Alternatives 5: Cloud Foundry Container Technology

Cloud Foundry is popular for its continuous delivery support that facilitates product life cycle management. Its container-based architecture is famous for multi-cloud environments as it facilitates the deployment of containers on any platform while allowing you to seamlessly move workloads without disturbing the application.



Docker Alternatives 6 : Rkt from CoreOS

Rkt uses the appt container format and can be easily integrated with other solutions. It uses Pods for container configuration and gRPC framework for RESTful APIs. Kubernetes support comes out-of-the-box. You can visually manage containers.



Docker Alternatives 7: LXD

LXD is a container and virtual machine manager that is powered by the Linux Container technology (LXC) and is managed by Canonical Ltd., a UK-based software company. It enables administrators to deliver a unified and superior user experience across the Linux ecosystem of VMs and containers. LXD is written in Go and uses a privileged daemon that can be accessed from the CLI via REST APIs using simple commands.



Docker Alternatives 8 : Podman

Podman is a popular containerization technology that is rapidly maturing to compete with Docker. Unlike Docker that uses a daemon for managing containers, Podman approaches containers with a Daemon-less technology called Conmon that handles the tasks of creating containers, storing the state and pulling out container images etc.



Docker Alternatives 9: Containerd

Containerd is a container runtime that performs the tasks of creating, managing and destroying containers in real-time, implementing the Container Runtime Interface (CRI) specifications. It is a kernel abstraction layer that abstracts OS functionality or Syscalls.



Docker Alternatives **10** : runC

runC offers native support for Windows and Linux containers and hardware manufacturers such as Arm, IBM, Intel, Qualcomm and bleeding-edge hardware features such as tpm and DPSK. runC container configuration format is governed by the Open Container Project. It is OCI-complaint and implements OCI specs.



Extra Docker Alternative : Vagrant

rVagrant is an open-source software tool from Hashicorp that helps organizations to build and manage portable software deployment environments such as VirtualBox. With its easy workflow and automation, Vagrant enables developers to automatically set up portable development environments.

The direct alternative to Docker technology is the serverless architecture. However, it makes organizations heavily dependent on cloud providers. It doesn't suit long-term applications as well. VMware doesn't offer a comprehensive containerization system. Rkt and Cloud Foundry are heading towards a dead end. Docker offers a comprehensive and robust container ecosystem that suits Devops, microservices and cloud-native architectures!

