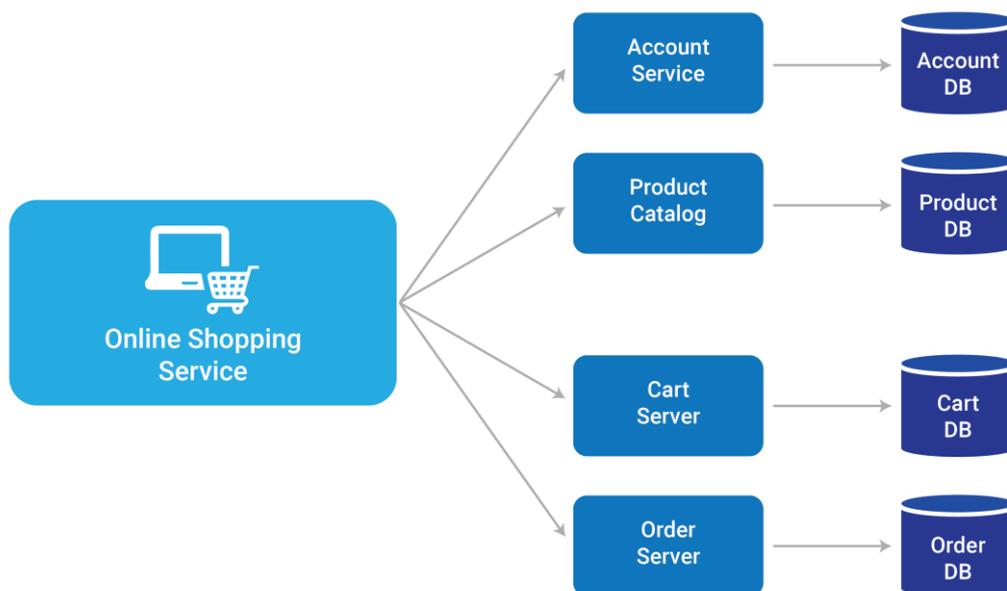


## Docking Your Applications to Dockers

**Portability** - In the present world, portability is something that can't be compromised in any field and the same applies to the software industry as well. Earlier, dockers were not available and software were deployed in virtual machines. However, these virtual machines have certain limitations such as:

- Virtual machines running on the same host system may result in unstable performance due to the workload by the other virtual machines running on the same system.
- The performance of a virtual machine can be hampered by the glitches of Operating System. One such instance would be the process isolation of the OS. Few bugs can violate this isolation and will affect the system running with multiple virtual machines.

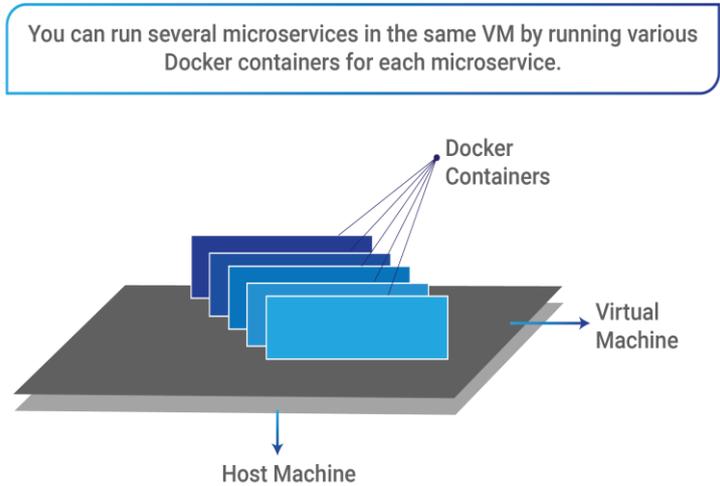
For example, consider an online shop with separate microservices for user accounts, product catalog, shopping carts, order processing and so on. This type of architecture has some benefits – Firstly, it is easier to manage. Secondly, even if one of the microservice fails, the entire application remains largely unaffected.



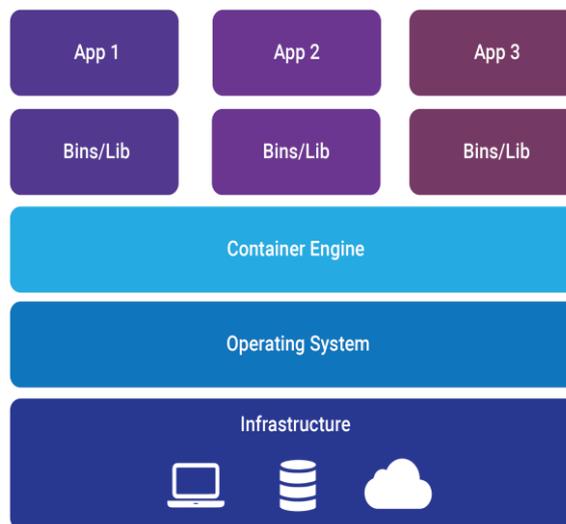
These kind of applications require several micro-services to run at a time which in turn requires several containers.

**Same application in Docker:**

- Docker is a tool designed to make it easier to create, deploy and run applications by using containers, which are formed with the help of Docker Engine
- Docker containers are light-weight alternatives to virtual machines and use host OS
- With dockers, there is no need to pre-allocate the RAM or disk space, it takes RAM and disk space according to the requirement



- Containers have applications running in them and all the required binaries and libraries are also packaged in the same container
- Docker Containers are runtime image of Docker Images



*Fig: Docker Architecture*

### ECS (Amazon Elastic Container Service):

- Amazon Elastic Container Service (Amazon ECS) is a Cloud Computing Service in Amazon Web Services (AWS) which helps to manage Docker containers on a cluster of Amazon Elastic Cloud Compute (EC2) instances.
- It gives the developer the ability to deploy and manage scalable applications that run on a group of servers called clusters through Application Programming Interface (API) calls and task definitions.
- ECS enables users to create and run Docker containers for distributed applications that run on micro-services. ECS evaluates the optimal resources that are needed to deploy the application like CPU and Memory Storage.
- ECS is a comprehensive cluster management framework which helps to manage EC2 instances and to schedule processes/container on it. It also provides services to manage versions of the applications.

As mentioned above, being portable is highly important and with dockers, one can deploy their applications to any Docker environment (cloud, server and so on) by building them locally, making them highly portable.

### Contact for further details



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