

Understanding "State"

State is data created and used by your application which must not be lost

User-generated data, user accounts, ...

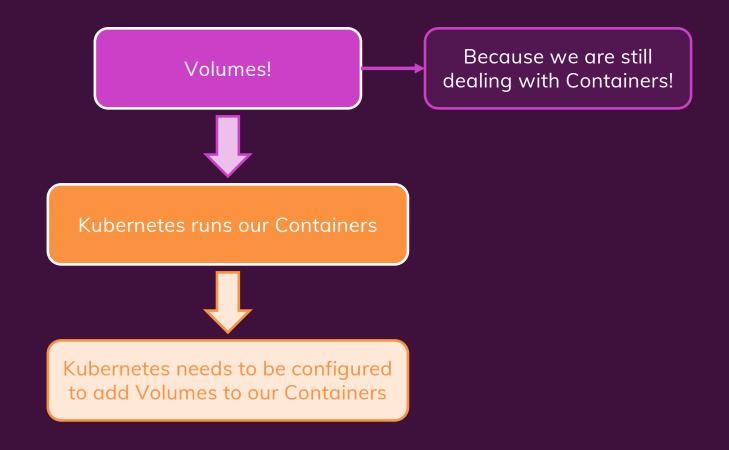
Often stored in a database, but could also be files (e.g. uploads) Intermediate results derived by the app

Often stored in memory, temporary database tables or files

Volumes

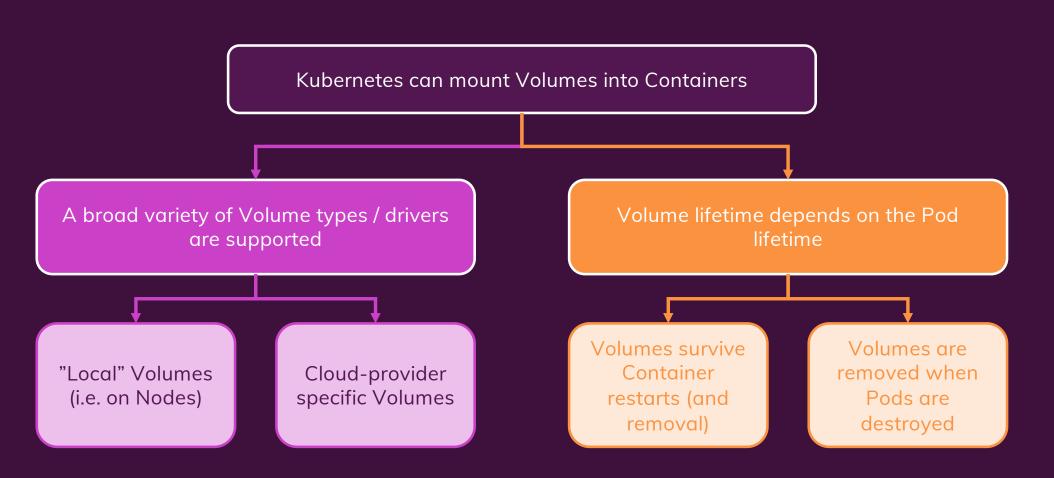


We Already Know The Solution!





Kubernetes & Volumes





Kubernetes Volumes vs Docker Volumes

Kubernetes Volumes

Supports many different Drivers and Types

Volumes are not necessarily persistent

Volumes survive Container restarts and removals

Docker Volumes

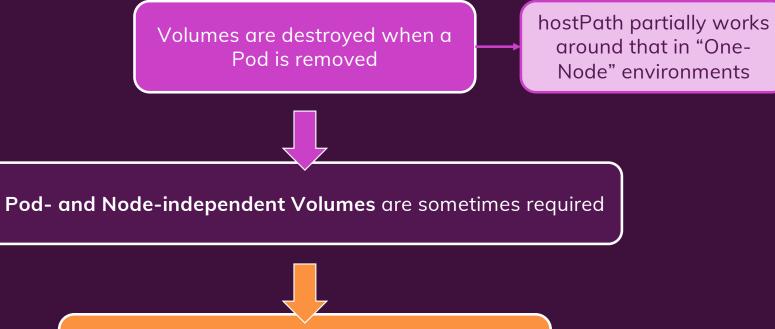
Basically no Driver / Type Support

Volumes persist until manually cleared

Volumes survive Container restarts and removals



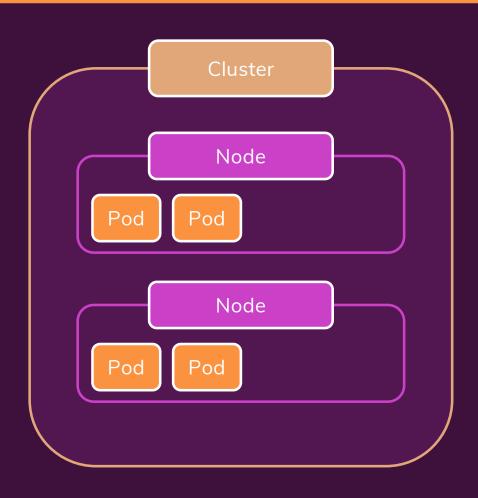
Persistent Volumes



Persistent Volumes

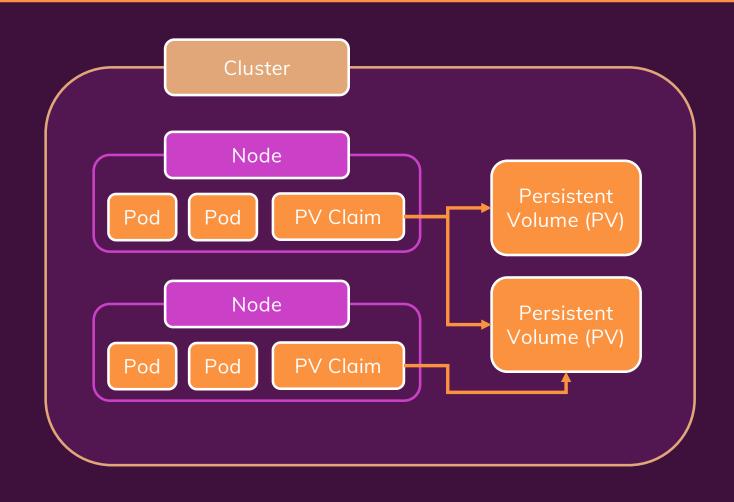


From Volumes To Persistent Volumes





Persistent Volumes & Persistent Volume Claims





"Normal" Volumes vs Persistent Volumes

Volumes allow you to persist data

"Normal" Volumes

Volume is attached to Pod and Pod lifecycle

Defined and created together with Pod

Repetitive and hard to administer on a global level

Persistent Volumes

Volume is a standalone Cluster resource (NOT attached to a Pod)

Created standalone, claimed via a PVC

Can be defined once and used multiple times