Data Storage in Kubernetes

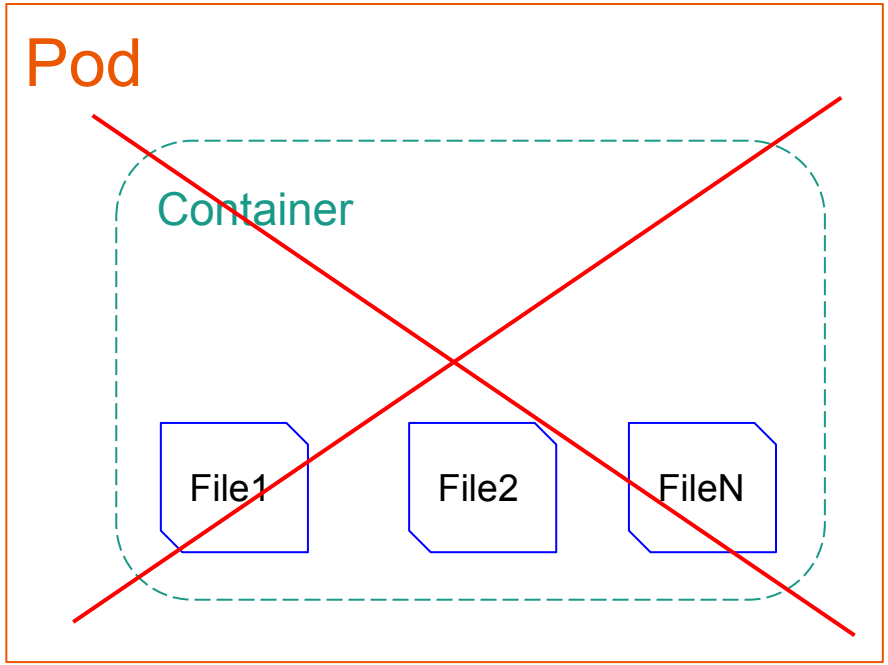
K8s Storage Overview

K8s Storage Overview

- ➔ Container File System
- ➔ Volumes
- ➔ Persistent Volumes
- ➔ Volume Types

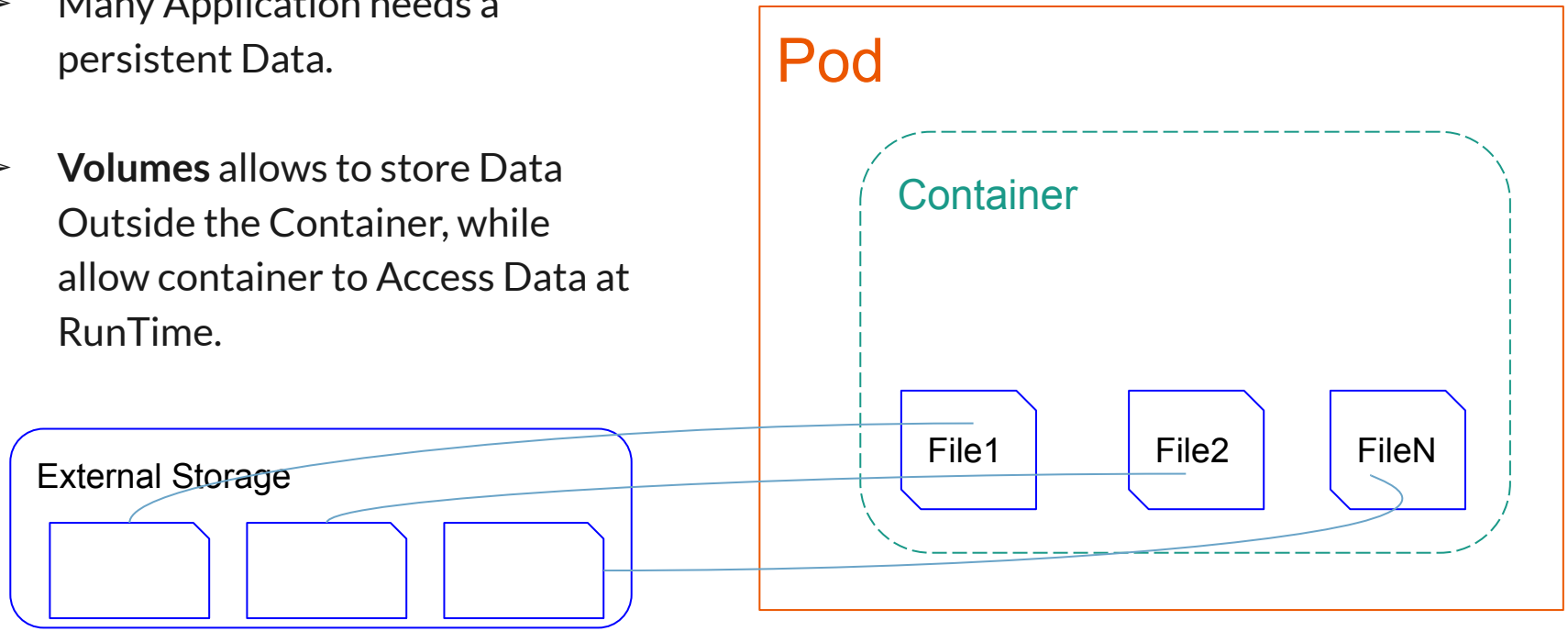
Container File System

- Container File System is **ephemeral**.
- Files in container File System Exists only as long as the Container Exists.
- Data in container File System is lost as soon as Container **Deleted** or **recreated**.



Volumes

- Many Application needs a persistent Data.
- **Volumes** allows to store Data Outside the Container, while allow container to Access Data at RunTime.

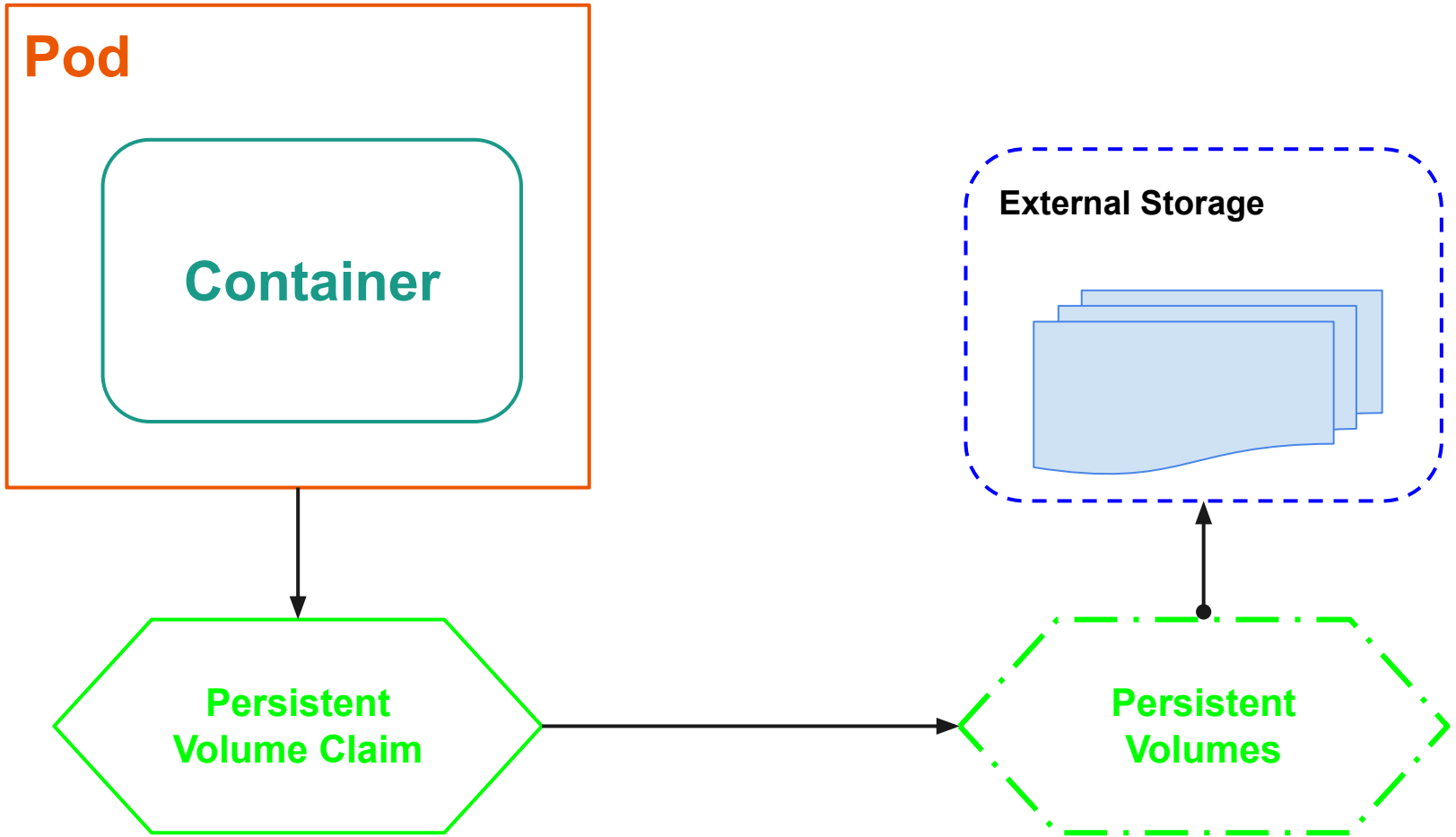


Persistent Volumes

- **Volumes** offer a way to provide external storage to container within the Pod/Container Specification.

- **Persistent Volumes** are a bit more advanced than Volumes.

- **Persistent Volumes** allow user to treat Storage as an Abstract Resource and consume it using Pods.


Pod
Container
External Storage
Persistent
Volume Claim
Persistent
Volumes

Volume Types

- **Volume** & **Persistent Volumes** each have a Volume Type.
- **Volume Type** determines how storage will be handled.
- Various Volume Types supposts in K8s:
  - NFS - Network file System
  - Cloud Storage - AWS, GCP, Azure
  - ConfigMaps & Secrets
  - File System on K8s Node

Thank You...

Don’t be the Same! Be Better!!!