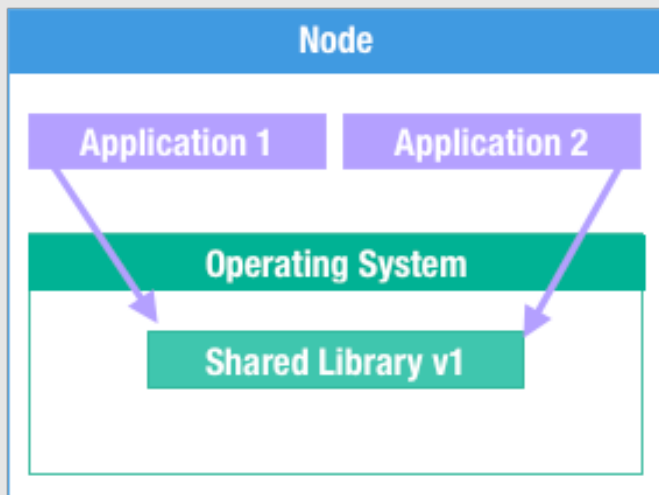# Containers

What they are and why they matter

What problem are we trying to solve?

What's wrong with VMs?
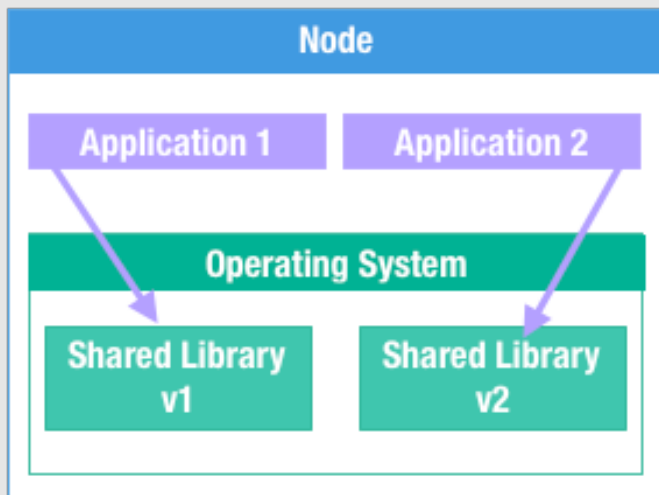
What are Containers?

Traditional Deployment
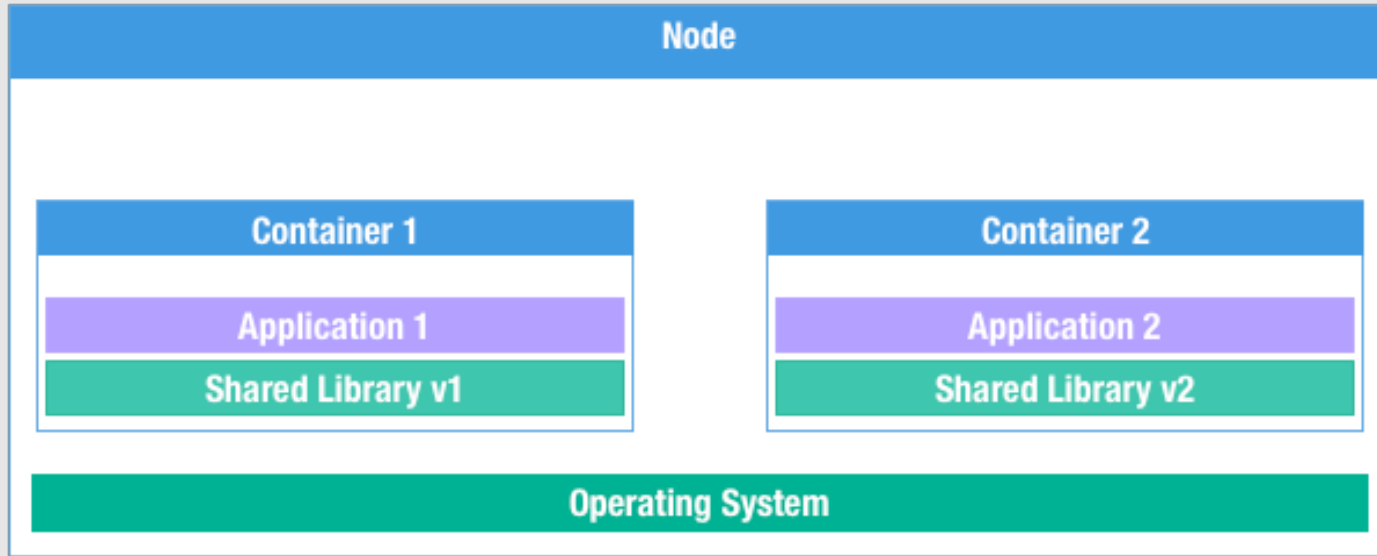
What are Containers?
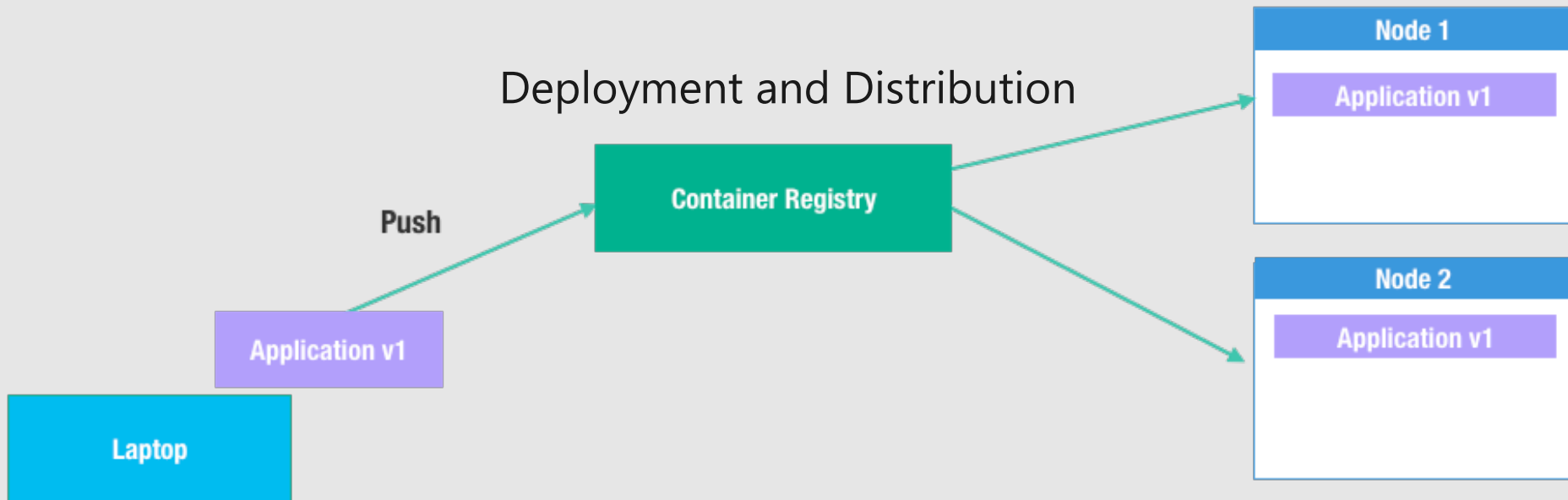
Traditional Deployment

What are Containers?

Packaging and Deployment

What are Containers?

What are Containers?

- Clear boundaries for your applications, allowing you to know which assets belong to which application and who owns it.
- No more leftover cruft from previous installations or versions.
- Provides resource isolation, without the overhead of more VMs.
- Better resource utilization.

Azure App Service

Azure App Service

- Fully Managed Application Platform
- Deploy your stack natively or with containers (Node, PHP, .NET, Python)
- Support custom domains, SSL certificates, single sign-on
- Plug into Azure's wide variety of services
  - Load Balancing
  - CI/CD
  - Managed Databases

Azure App Service

- Continuous Delivery based on code changes or container pushes
- High Availability with multi-region deployments and autoscaling
- Azure Monitor provides detailed views of resource usage, while Application Insights provides deeper insights into your app's throughput, response times, memory/CPU utilization, and error trends.

Azure Container Registry

Azure Container Registry

- Use same docker commands as Docker Hub
- Private
- Eliminates egress/ingress traffic and latency
- Geo-replication - a single registry replicated across multiple regions
- Authenticate with Azure Active Directory
- Automatic Vulnerability Scanning
- Azure Container Registry Tasks / Builders