WSO2 API Manager 4.2.0 Advanced - Integration Profile

Deployment Strategy

WSO2 Training

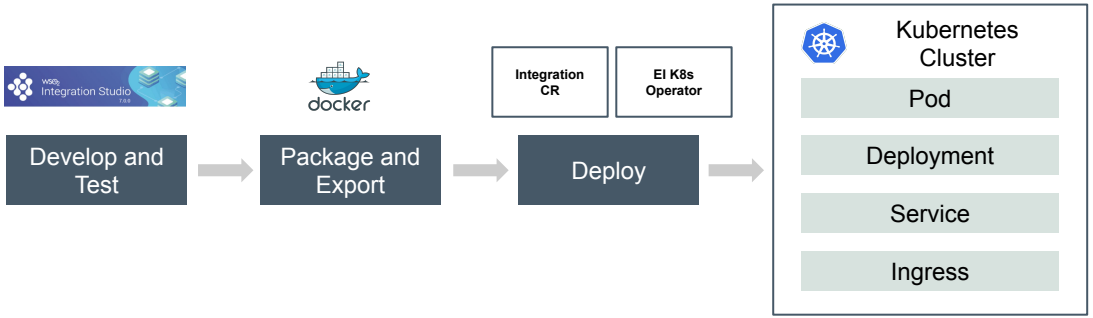
Module Objectives

At the end of this module, attendees will be able to:

- Understand the various deployment strategy available for different environments.
- Set up a clustered deployment of the Micro Integrator on a VM.
- Understand deployment patterns that can used on Kubernetes.
- Set up a Micro Integrator cluster on Kubernetes.
- Build a CICD pipeline for a Kubernetes deployment.

Deployment Option

- Deploy on-premise in a VM environment.
- Deploy on containers.
  - Deploy on Kubernetes using the K8s-EI Operator.



  - Deploy on Kubernetes using HELM charts.

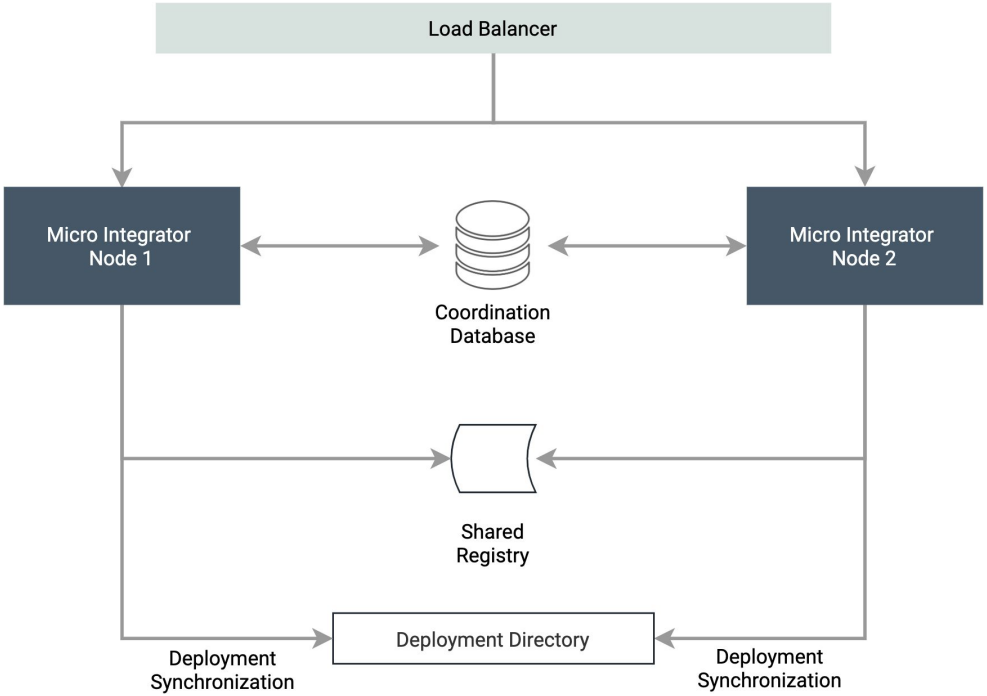
Clustered Deployment on a VM

Example:

Two-Node Cluster

Includes:

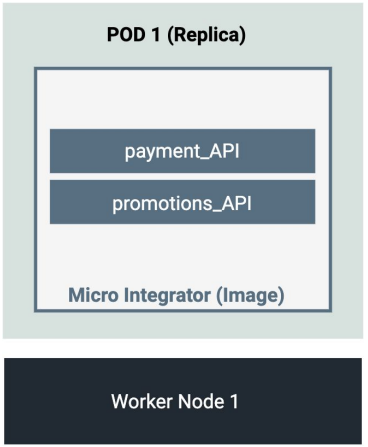
- High availability
- Scalability
- External, third-party load balancer
- Load balancing on round-robin basis



https://apim.docs.wso2.com/en/4.2.0/install-and-setup/setup/mi-setup/deployment/deploying_wso2_ei/

Kubernetes Deployment Patterns

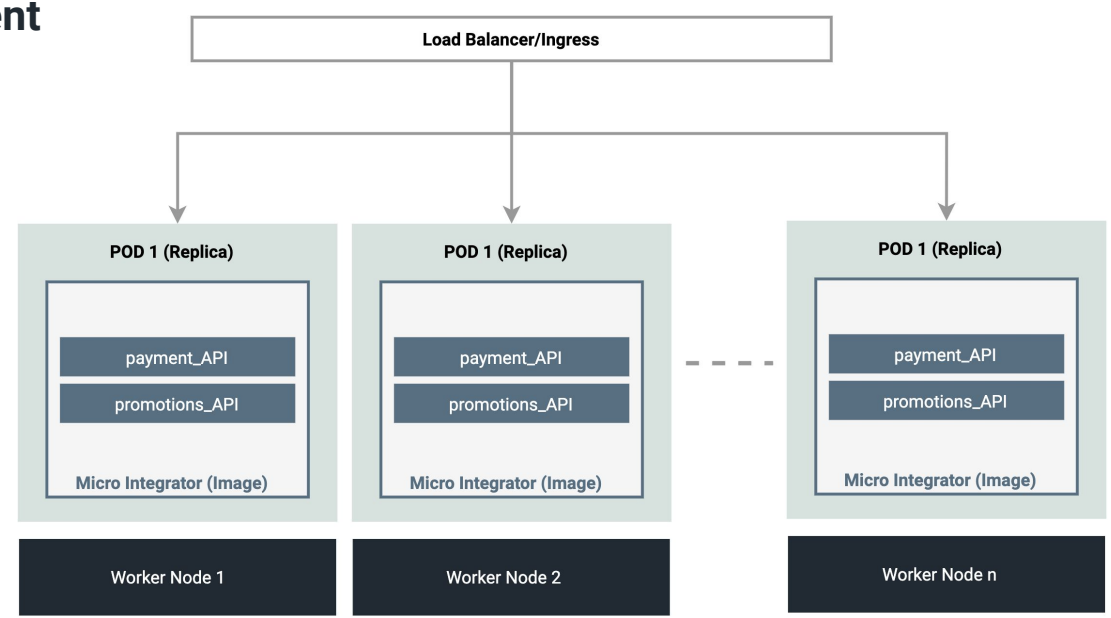
- Single Replica deployment
  - Single worker node
  - Single K8s pod replica
- Multiple Replica deployment
  - Multiple worker nodes,
  - Possible to have multiple (uncoordinated) pods
  - Possible to have multiple pod replicas
- Multiple Replicas (with coordination)
  - Multiple worker nodes
  - Possible to have multiple coordinated pods
  - Single replica for coordinated pods



Kubernetes Deployment Patterns

Multiple Replica Deployment

Depending on the capacity of your worker node, you can maintain multiple pod replicas in a single worker node.



Kubernetes Deployment Patterns

Multiple Replicas (with Coordination)

When you have stateful artifacts in a deployment, maintain single pod replicas for such artifacts.