



OVN vs S

Open vSwitch

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**Scale testing a K8S cluster using
OVN and kind**

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Goal

- How can we leverage OVS, OVN and Kind for scale testing a kubernetes cluster.
- You can scale test your
 - Application
 - K8S control plane
 - K8S networking plugin
 - ...

What do we need

- Few physical servers
- Two nics - one for management traffic and other for external traffic.
- OVS and OVN deployed in these servers.
- A custom “kind” utility compiled from here [1]

[1] - https://github.com/numansiddique/kind/tree/join_support

Kind

- [kind](#) is a tool for running local Kubernetes clusters using Docker container “nodes” on a single machine.
- Each docker container represents a k8s node.
- Mainly used for local testing.
- “kind create cluster” brings up a simple cluster.
- It uses linux bridges for networking (docker/podman default networking)

Kind for multi-nodes

- A dirty hack of kind -
https://github.com/numansiddique/kind/tree/join_support
- Added OVS support in kind to provider networking for k8s nodes-containers.
- “Modified” kind creates an ovs port and adds it into the k8s node-container using “ovs-docker” tool.
- Added support in Kind to join additional k8s nodes.

Extending a kind cluster

Step 1: Deploy a kind cluster.

```
#kind create cluster ovn
```

Step 2: Add additional nodes to the kind cluster 'ovn'

```
#kind create cluster --name ovn --image kindest/node:v1.20.0 --join  
--nodeip=10.82.0.6 --nodemac=52:54:00:01:00:fe --nodename=ovnworker3
```

```
#kind create cluster --name ovn --image kindest/node:v1.20.0 --join  
--nodeip=10.82.0.7 --nodemac=52:54:00:01:01:1e --nodename=ovnworker4
```

OVN kind heater

- [Tool](#) to deploy a kind cluster and extend it to add additional worker nodes.
- Creates an OVN cluster on the physical machines.
- OVN provides networking for each k8s node-container
- It
 - Creates a 3 node kind cluster using ovn-kubernetes on a central physical node.
 - Uses the modified “kind” utility to add additional k8s worker nodes on other physical machines.
- A multi-node kind k8s cluster is ready for testing.

<https://github.com/numansiddique/ovn-kind-heater/>

Demo



Links

- https://github.com/numansiddique/kind/tree/join_support
- <https://github.com/numansiddique/ovn-kind-heater/>
- <https://github.com/kubernetes-sigs/kind>



Thanks!

Questions.