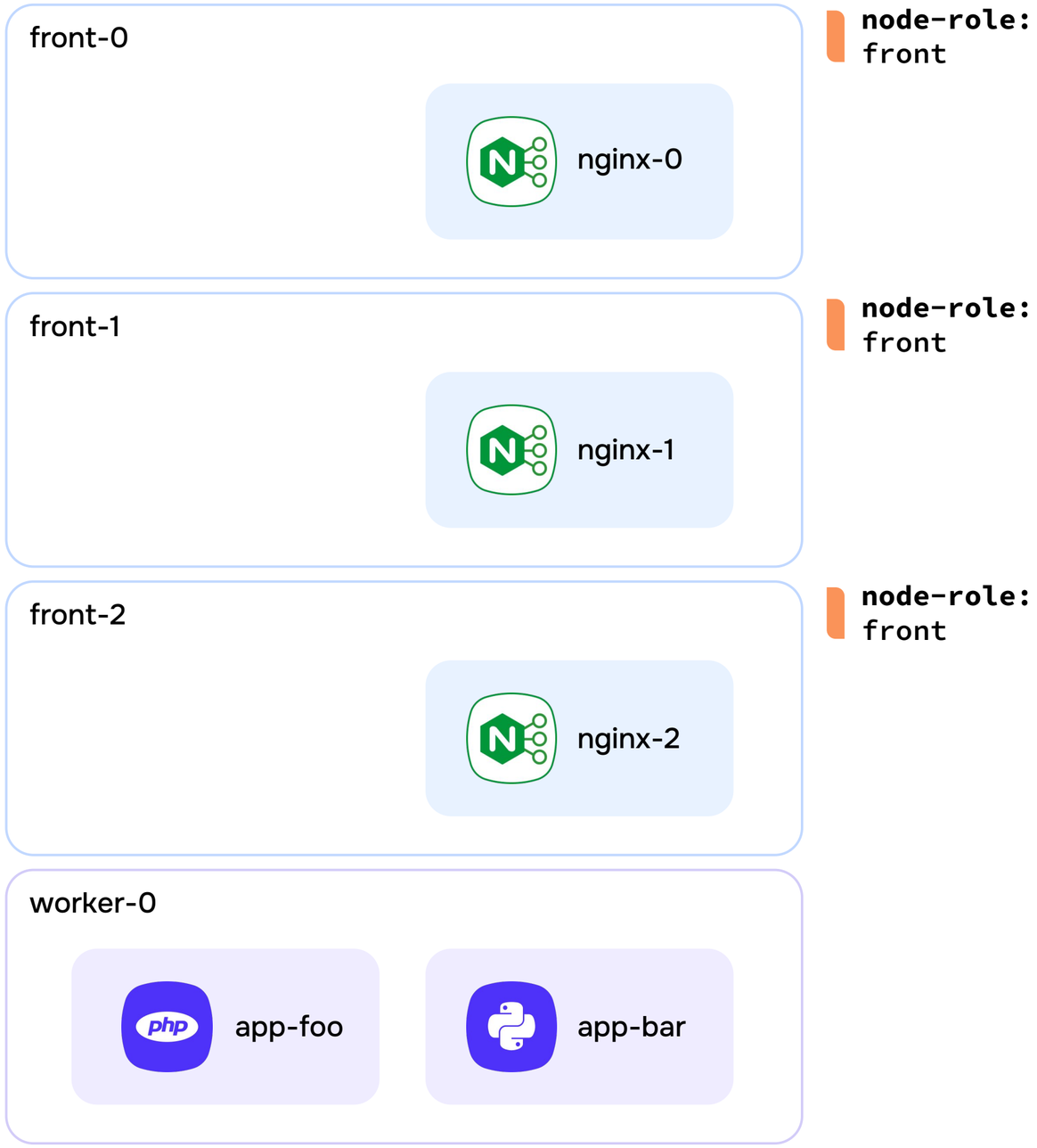
Deckhouse
Kubernetes Platform

L2 LoadBalancer

Basics



There are three frontends nodes and one worker in the cluster.

```yaml
apiVersion: deckhouse.io/v1alpha1
kind: ModuleConfig
metadata:
  name: l2-load-balancer
spec:
  enabled: true
  version: 2
```

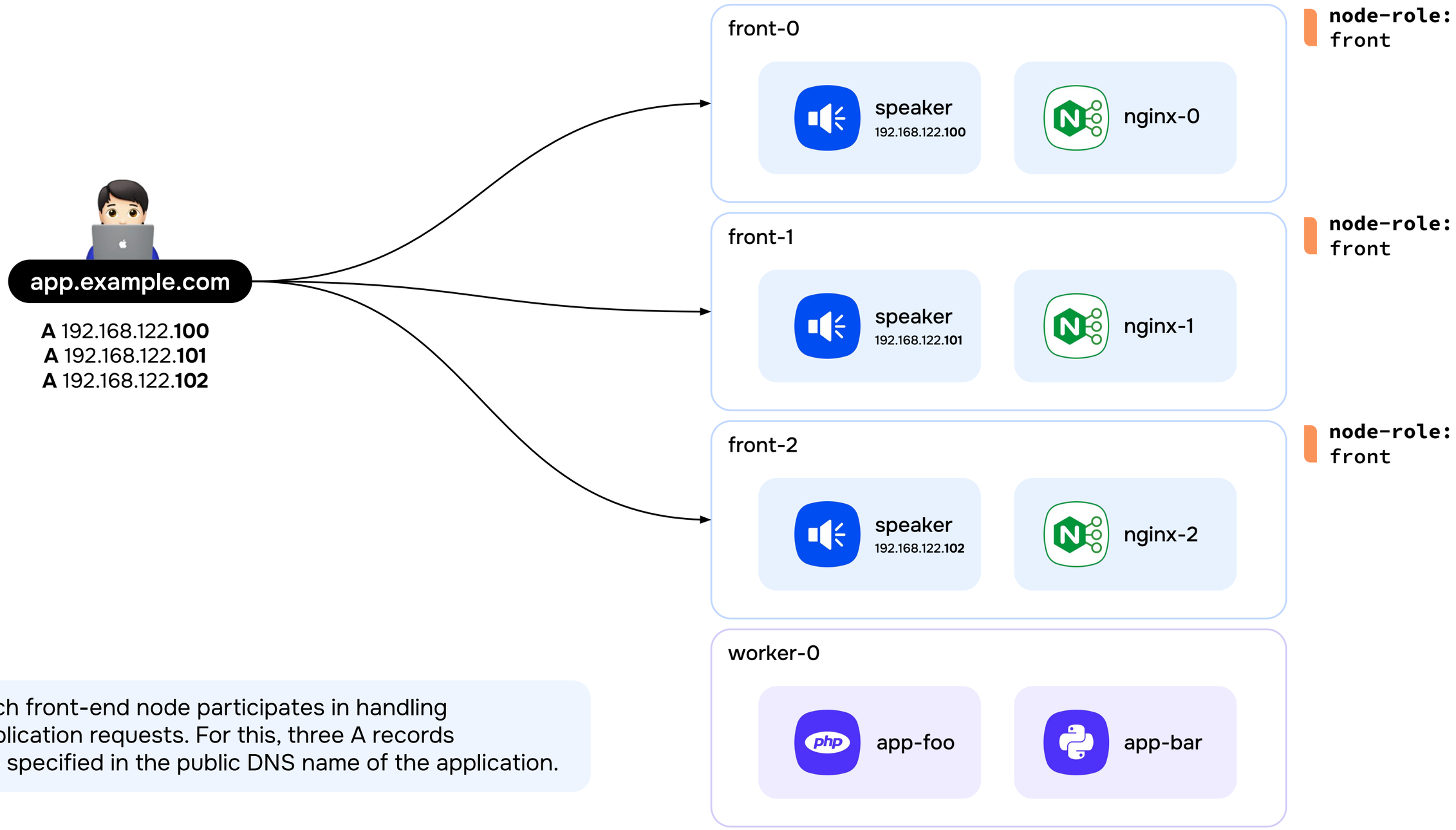
We turn on **MetalLB** module: ModuleConfig version 2.

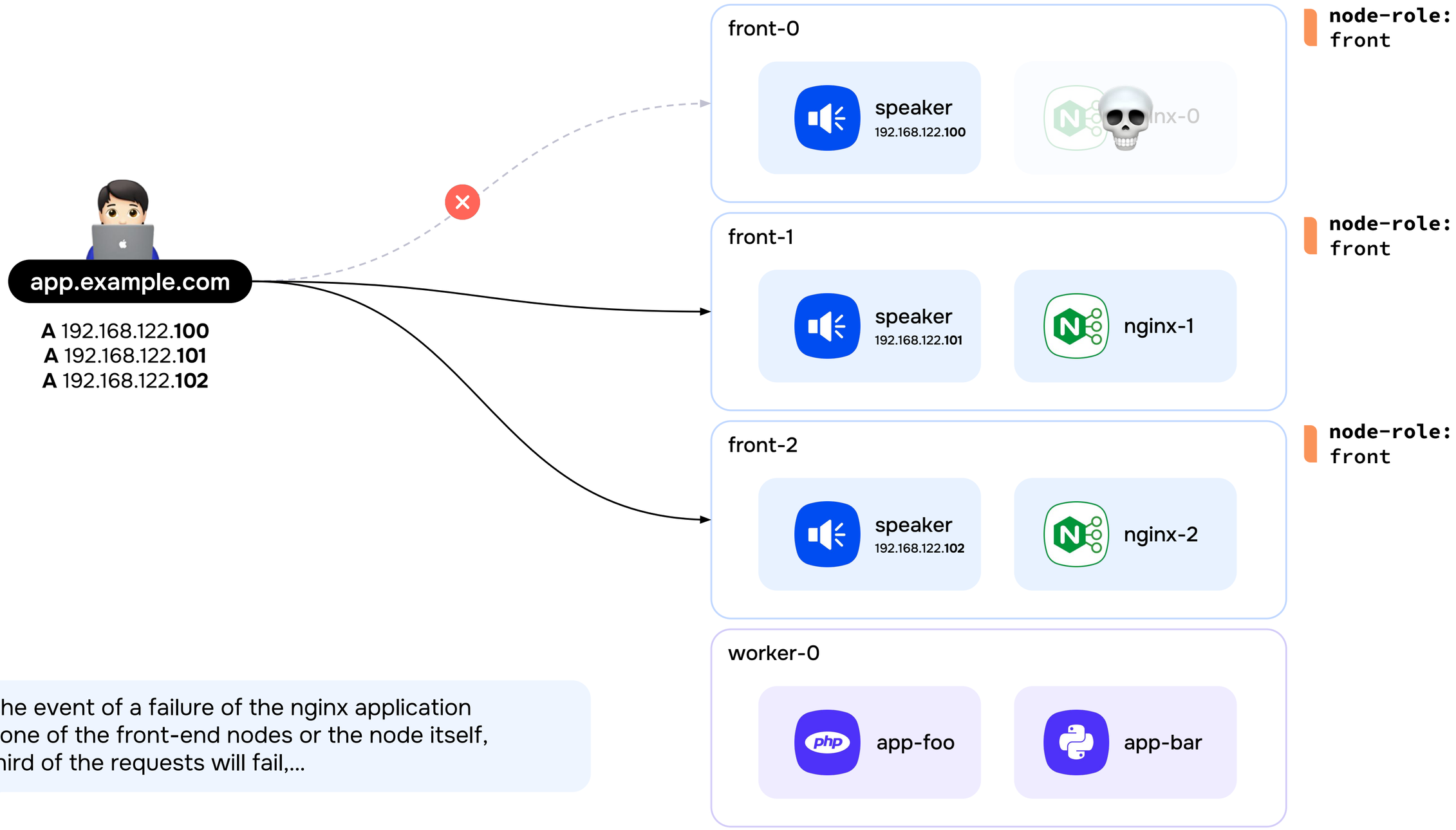
```yaml
apiVersion: network.deckhouse.io/v1alpha1
kind: MetalLoadBalancerClass
metadata:
  name: front
spec:
  addressPool:
    - 192.168.122.100-192.168.122.150
  isDefault: false
  nodeSelector:
    node-role: front
  type: L2
```

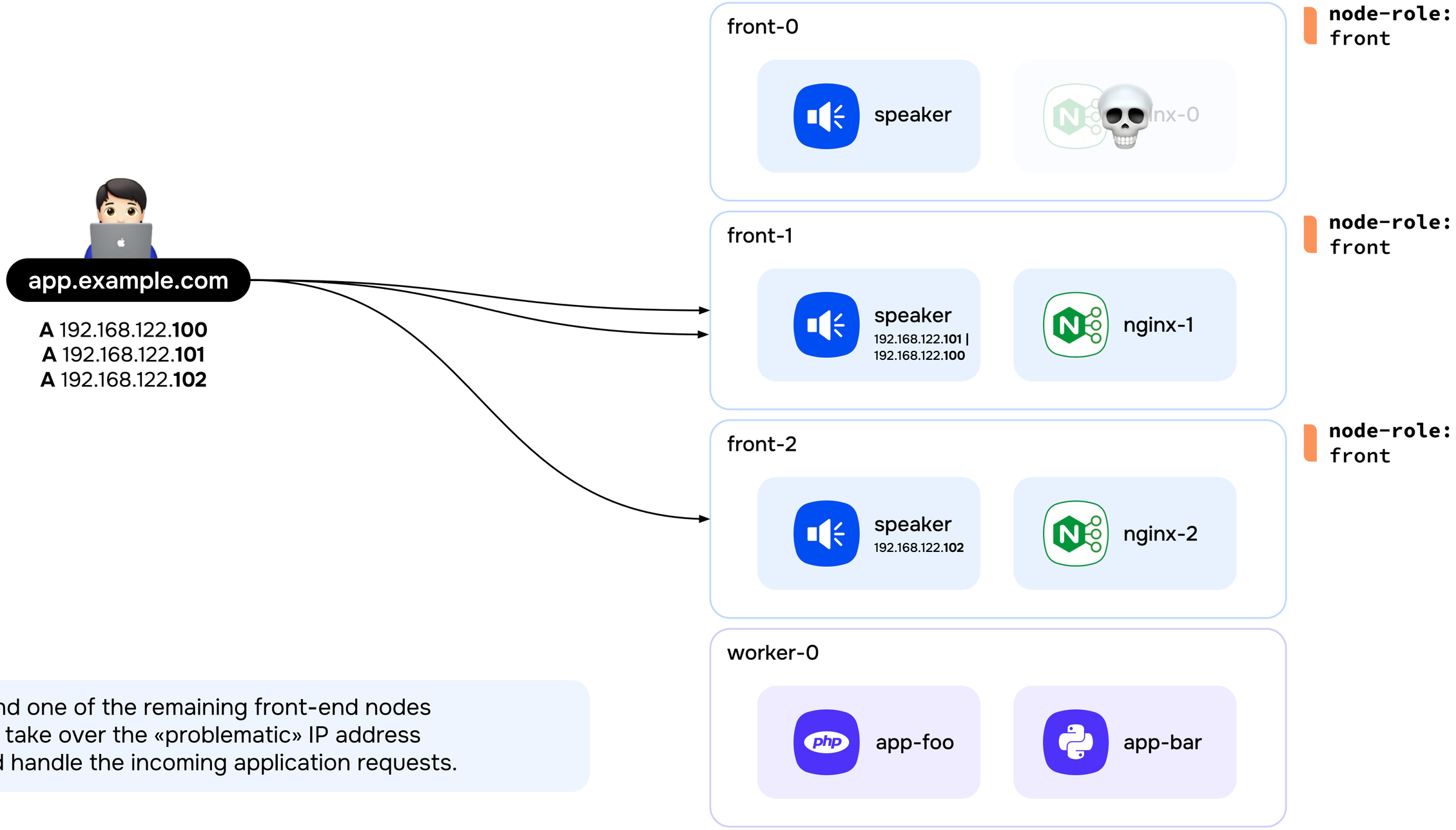
An **MetalLoadBalancerClass** resource has been created specifying front-end nodes and a pool of «public» IP addresses. This allows for easily creating «zones» by associating specific address pools with a group of nodes. Speakers are run on all front-end nodes.

```yaml
apiVersion: v1
kind: Service
metadata:
  name: nginx-deployment
  annotations:
    network.deckhouse.io/l2-load-balancer-name:
ingress
    network.deckhouse.io/l2-load-balancer-external-
ips-count: "3"
spec:
  ports:
  - port: 80
    protocol: TCP
    targetPort: 80
  selector:
    app: nginx
  type: LoadBalancer
  LoadBalancerClass: front
```

An Service resource with type **LoadBalancer** has been created. It contains the LoadBalancerClass name, special annotation with the required number of IP addresses.
Speakers are launched on all frontend nodes, each obtaining one or more addresses from the pool.


app.example.com
A 192.168.122.100
A 192.168.122.101
A 192.168.122.102
front-0
speaker
192.168.122.100
nginx-0
node-role:
front
front-1
speaker
192.168.122.101
nginx-1
node-role:
front
front-2
speaker
192.168.122.102
nginx-2
node-role:
front
worker-0
app-foo
app-bar
Each front-end node participates in handling application requests. For this, three A records are specified in the public DNS name of the application.


front-0
speaker
192.168.122.100
nx-0
node-role:
front
front-1
speaker
192.168.122.101
nginx-1
node-role:
front
front-2
speaker
192.168.122.102
nginx-2
node-role:
front
worker-0
app-foo
app-bar
app.example.com
A 192.168.122.100
A 192.168.122.101
A 192.168.122.102
In the event of a failure of the nginx application
on one of the front-end nodes or the node itself,
a third of the requests will fail,...


front-0
speaker
nx-0
node-role:
front
front-1
speaker
192.168.122.101 |
192.168.122.100
nginx-1
node-role:
front
front-2
speaker
192.168.122.102
nginx-2
node-role:
front
worker-0
app-foo
app-bar
app.example.com
A 192.168.122.100
A 192.168.122.101
A 192.168.122.102
...and one of the remaining front-end nodes
will take over the «problematic» IP address
and handle the incoming application requests.