Implement Azure Kubernetes Service

Task 4: Scale containerized workloads in the Azure Kubernetes Service cluster

We scale the deployment by increasing of the number of pods to 2:

```
andrijana [ ~ ]$ kubectl scale --replicas=2 deployment/nginx-deployment
deployment.apps/nginx-deployment scaled
```

We verify the outcome of scaling the deployment and see there are 2 nginx nodes deployed:

```
andrijana [ ~ ]$ kubectl get pods
NAME                               READY   STATUS    RESTARTS   AGE
nginx-deployment-85c6d5f6dd-4l7lw   1/1     Running   0          9s
nginx-deployment-85c6d5f6dd-8pnsx   1/1     Running   0          3m25s
```

We run the following to scale out the cluster by increasing the number of nodes to 2:

```
andrijana [ ~ ]$ az aks scale --resource-group $RESOURCE_GROUP --name $AKS_CLUSTER --node-count 2
{
  "aadProfile": null,
  "addonProfiles": {
    "azureKeyvaultSecretsProvider": {
      "config": null,
      "enabled": false,
      "identity": null
    },
    "azurepolicy": {
      "config": null,
      "enabled": false,
      "identity": null
    }
  },
  "agentPoolProfiles": [
```

We verify the outcome of scaling the cluster:

```
andrijana [ ~ ]$ kubectl get nodes
NAME                                STATUS   ROLES   AGE    VERSION
aks-agentpool-39335539-vmss000000   Ready    agent   19m    v1.24.10
aks-agentpool-39335539-vmss000001   Ready    agent   4m7s   v1.24.10
andrijana [ ~ ]$
```

Next, we scale the deployment:

```
andrijana [ ~ ]$ kubectl scale --replicas=10 deployment/nginx-deployment
deployment.apps/nginx-deployment scaled
```

And verify the outcome of scaling the deployment:

```
andrijana [ ~ ]$ kubectl get pods
NAME                                READY   STATUS    RESTARTS   AGE
nginx-deployment-85c6d5f6dd-4hxpn   1/1     Running   0          30s
nginx-deployment-85c6d5f6dd-4l7lw   1/1     Running   0          10m
nginx-deployment-85c6d5f6dd-8pnsx   1/1     Running   0          14m
nginx-deployment-85c6d5f6dd-9pfzv   1/1     Running   0          30s
nginx-deployment-85c6d5f6dd-c6z27   1/1     Running   0          30s
nginx-deployment-85c6d5f6dd-fc7mt   1/1     Running   0          30s
nginx-deployment-85c6d5f6dd-j7gbn   1/1     Running   0          30s
nginx-deployment-85c6d5f6dd-qfpmw   1/1     Running   0          30s
nginx-deployment-85c6d5f6dd-w7lrg   1/1     Running   0          30s
nginx-deployment-85c6d5f6dd-wt6zm   1/1     Running   0          30s
```

- We can see the number of pods is 10, as deployed in the number of replicas in the previous step.

Review the pods distribution across cluster nodes:

```
andrijana [ ~ ]$ kubectl get pod -o=custom-columns=NODE:.spec.nodeName,POD:.metadata.name
NODE                                POD
aks-agentpool-39335539-vmss000001   nginx-deployment-85c6d5f6dd-4hxpn
aks-agentpool-39335539-vmss000000   nginx-deployment-85c6d5f6dd-4l7lw
aks-agentpool-39335539-vmss000000   nginx-deployment-85c6d5f6dd-8pnsx
aks-agentpool-39335539-vmss000001   nginx-deployment-85c6d5f6dd-9pfzv
aks-agentpool-39335539-vmss000000   nginx-deployment-85c6d5f6dd-c6z27
aks-agentpool-39335539-vmss000001   nginx-deployment-85c6d5f6dd-fc7mt
aks-agentpool-39335539-vmss000001   nginx-deployment-85c6d5f6dd-j7gbn
aks-agentpool-39335539-vmss000001   nginx-deployment-85c6d5f6dd-qfpmw
aks-agentpool-39335539-vmss000000   nginx-deployment-85c6d5f6dd-w7lrg
aks-agentpool-39335539-vmss000000   nginx-deployment-85c6d5f6dd-wt6zm
andrijana [ ~ ]$
```

- We can see that the pods have been distributed across both of the nodes

And finally, delete the deployment:

```
andrijana [ ~ ]$ kubectl delete deployment nginx-deployment
deployment.apps "nginx-deployment" deleted
```