**Lesson 6 Demo 7**

**Limit Traffic to an Application**

**Objective:** Learn to create a network policy that allows the traffic only from certain Pods

**Tools required:** kubectl

**Prerequisites:** kubectl must be installed

Steps to be followed:

1. Deploying the Kubernetes resource
2. Creating a YAML file for the network policy
3. Verifying the network policy
4. Cleaning up the created resources

**Step 1: Deploying the Kubernetes resource**

1. Suppose your application is a REST API server, marked with the labels **app=simplilearn** and **role=cka**, use the following command:

**kubectl run apiserver --image=nginx --labels="app=simplilearn,role=cka" --expose --port=80**

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**Step 2: Creating a YAML file for the network policy**

1. Create a new YAML file using the following command:

**vi api-allow.yaml**

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1. Save the following network policy to **api-allow.yaml** to restrict the access only to other Pods (e.g., other microservices) running with the label **app=simplilearn**:

**kind: NetworkPolicy**

**apiVersion: networking.k8s.io/v1**

**metadata:**

**name: api-allow**

**spec:**

**podSelector:**

**matchLabels:**

**app: simplilearn**

**role: cka**

**ingress:**

**- from:**

**- podSelector:**

**matchLabels:**

**app: simplilearn**

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1. Create a network policy for the traffic allocation:

**kubectl apply -f api-allow.yaml**

**kubectl get networkpolicy**

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**Step 3: Verifying the network policy**

1. Test if the network policy is blocking the traffic by running a Pod without the **app=simplilearn** label by executing the following command:

**kubectl run test-$RANDOM --rm -i -t --image=alpine -- sh**

/ # **wget -qO- --timeout=2** [**http://apiserver**](http://apiserver)

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The traffic is blocked.

|  |
| --- |
| **Note:** Type **exit** and press enter to exit the command prompt. |

1. Test if the network policy is allowing the traffic by running a Pod with the **app=simplilearn** label by executing the following command:

**kubectl run test-$RANDOM --rm -i -t --image=alpine --labels="app=simplilearn,role=ckad" -- sh**

/ # **wget -qO- --timeout=2** [**http://apiserver**](http://apiserver)

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**Step 4: Cleaning up the created resources**

1. To delete the Pod, use the following command:

**kubectl delete pod apiserver**

1. To delete the service, use the following command:

**kubectl delete service apiserver**

1. To delete the network policy, use the following command:

**kubectl delete networkpolicy api-allow**

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Hence, limiting the traffic to an application and cleaning up the created resources have been completed successfully.