**Lesson 4 Demo 9**

**ReplicaSets and Metrics Server**

**Objective:** To create a ReplicaSet and deploy a metrics server

**Tools required:** kubeadm, kubectl, kubelet, and etcd

**Prerequisites:** A Kubernetes cluster must be set up (follow steps of Lesson 2 Demo 1)

Steps to be followed:

1. Creating a ReplicaSet
2. Configuring the metrics server
3. Verifying the metrics server Deployment

**Step 1: Creating a ReplicaSet**

1. Write the following code in the **replicaset.yaml** file.

**apiVersion: apps/v1**

**kind: ReplicaSet**

**metadata:**

**name: frontend**

**labels:**

**app: guestbook**

**tier: frontend**

**spec:**

**# modify replicas according to your case**

**replicas: 3**

**selector:**

**matchLabels:**

**tier: frontend**

**template:**

**metadata:**

**labels:**

**tier: frontend**

**spec:**

**containers:**

**- name: php-redis**

**image: gcr.io/google\_samples/gb-frontend:v3**

**Text

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1. Run the following command to create a **Pod** with **ReplicaSet**:

**kubectl create -f replicaset.yaml**

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1. Verify the state of the **Pod** and **ReplicaSet** with the following command:

**kubectl get rs**

**kubectl get pods**

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1. Describe the **ReplicaSet** for detailed information.

**kubectl describe rs/frontend**

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**Step 2: Configuring the metrics server**

1. Run the following command to create a **metrics-server**:

**kubectl apply -f** [**https://github.com/kubernetes-sigs/metrics-server/releases/latest/download/components.yaml**](https://github.com/kubernetes-sigs/metrics-server/releases/latest/download/components.yaml)

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1. Verify the state of the **metrics-server** Pod with the command below:

**kubectl get pods -n kube-system**

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|  |
| --- |
| Note: The **metrics-server** Pod is currently in a pending state. To start the **metrics-server** Pod, follow the steps below. |

1. Run the following command to fetch a **k8s-metrics-server.patch.yaml** file:

**wget -c https://gist.githubusercontent.com/initcron/1a2bd25353e1faa22a0ad41ad1c01b62/raw/008e23f9fbf4d7e2cf79df1dd008de2f1db62a10/k8s-metrics-server.patch.yaml**

**A screenshot of a computer

Description automatically generated with medium confidence**

1. Run the following command to view the contents of the **file k8s-metrics-server.patch.yaml** file:

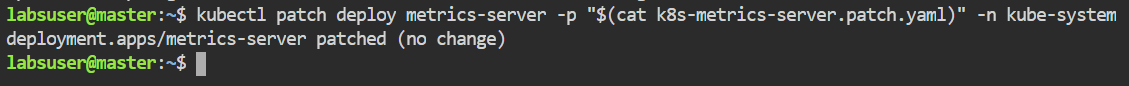
**cat k8s-metrics-server.patch.yaml**

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1. Run the command below to deploy **metrics-server**:

**kubectl patch deploy metrics-server -p "$(cat k8s-metrics-server.patch.yaml)" -n kube-system**

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**Step 3: Verifying the metrics server Deployment**

1. To verify the **master-server** state, run the following command:

**kubectl get pods -n kube-system**

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The **master-server** has been successfully deployed and is available for usage, as seen in the screenshot above.