Experiment 9: Deploying Nginx on Minikube

hello.yaml

```yaml
apiVersion: v1
kind: Pod
metadata:
  name: hello-pod
  labels:
    app: hello
spec:
  containers:
  - name: hello-container
    image: nginx
    ports:
    - containerPort: 80
---
apiVersion: v1
kind: Service
metadata:
  name: hello-service
spec:
  selector:
    app: hello
  type: NodePort
  ports:
  - port: 80
    targetPort: 80
    nodePort: 30007
```

Execution Steps

```bash
# 1. Install Minikube
sudo apt update -y
sudo apt install curl -y
curl -LO https://storage.googleapis.com/minikube/releases/latest/minikube-linux-amd64
sudo install minikube-linux-amd64 /usr/local/bin/minikube

# 2. Install kubectl
curl -LO "https://storage.googleapis.com/kubernetes-release/release/$(curl -s
https://storage.googleapis.com/kubernetes-
release/release/stable.txt)/bin/linux/amd64/kubectl"
chmod +x kubectl
sudo mv kubectl /usr/local/bin/

# 3. Verify installation
minikube version
kubectl version --client

# 4. Start Minikube cluster
minikube start --driver=docker
```

```
minikube status

# 5. Create the Pod and Service file
nano hello.yaml
# (Paste the YAML content from above into the editor, then save and exit)

# 6. Apply the Kubernetes configuration
kubectl apply -f hello.yaml

# 7. Check the status of the Pod and Service
kubectl get pods
kubectl get svc

# 8. Get the cluster's IP address
minikube ip

# 9. Access the Nginx service in a browser at http://<MINIKUBE_IP>:30007
```