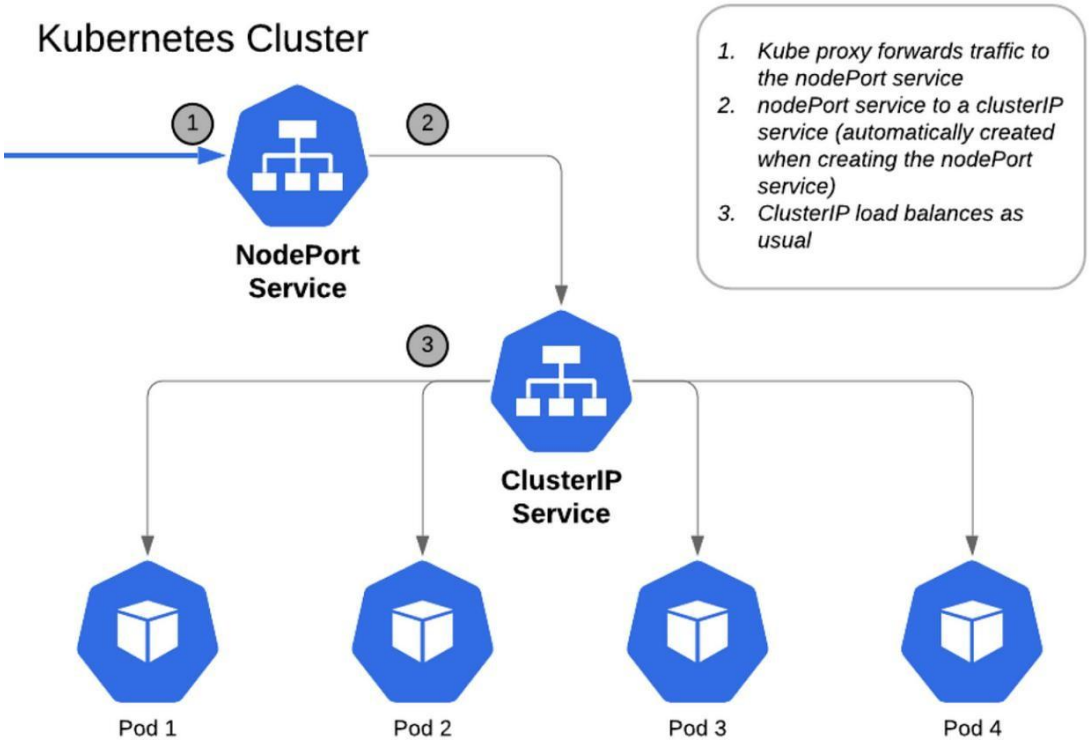
KUBERNETES PROJECT WITH NODEPORT SERVICE



Part 1: EKS Cluster Creation and Setup

Step 1: AWS Login aur EKS Cluster Create Karna

1. AWS Management Console pe login karein.
2. EKS service ko search kar ke “Create Cluster” option pe click karein.
3. Cluster ka naam, region aur configuration choose karein.

Step 2: Networking Configuration

1. VPC, subnets aur security groups ko setup karein.
2. Networking settings ka dhyan rakhein jaise ki Public aur Private subnets.

Step 3: Observability Configure Karna

1. "Configure observability" section mein
2. "Control Plane Logs" enable karo
3. Next pe click karo

Step 4: Add-ons Configure Karna

1. EKS cluster ke liye add-ons jaise ki CoreDNS aur VPC CNI configure karein.
2. Pod Identity IAM Role for Service Account Configure karo.

Step 5: Cluster Create Karna

1. Sab settings review karein aur "Create Cluster" par click karein.
2. Cluster ke Active hone ka wait karein jo kuch minutes le sakta hai.

Step 6: Node Group Create Karna

1. "Add Node Group" option select karein.
2. Node group ka naam define karein aur IAM role assign karein.
3. Instance types ka selection karein jo workload ke liye best ho.

Step 7: Compute aur Scaling Configuration

1. Desired, Minimum, aur Maximum node count set karein taake autoscaling sahi kaam kare.
2. Spot Instances ya On-Demand Instances ka selection karein based on cost aur availability.

Step 8: Node Group ki Networking Configure Karna

1. Node Group ke liye subnets, security groups, aur VPC configuration set karein.

Step 9: Node Group Review and Create Karna

1. Node group ke configuration ko review karein aur create kar dein.
2. "Create Node Group" par click karein aur nodes ka active hone ka wait karein.

Step 10: Security Groups Configure Karna EKS Cluster Ke liye

1. Cluster ke security group mein required inbound aur outbound rules configure karein.
2. API server aur node communication ke liye proper ports open karein.

Step 11: Security Groups Configure Karna EKS Cluster Node Ke liye

1. Nodes ke security group mein required inbound aur outbound rules configure karein.
2. SSH access agar required ho toh specific IPs ke liye allow karein.

Step 12: Project Ki GitHub Repository Clone Karein

1. GitHub repository ko clone karein.
2. Code aur configurations ko local machine pe setup karein.

Step 13: AWS CLI Configure Karo

1. AWS CLI ko configure karein with access keys.
2. aws configure command se credentials aur region set karein.

Part 2: Nginx Pods and Service Deployment

Step 1: nginx-deployment.yaml File Ka Kaam

1. nginx-deployment.yaml file ko configure karein taake pods create ho sakein.

2. Nginx application ki specifications set karein.

Step 2: nginx-nodeport-service.yaml File Ka Kaam

1. nginx-nodeport-service.yaml file ko configure karein jo Nginx pods ko expose kare.

2. NodePort ko configure karke service ko deploy karein.

Part 3: Registering a Domain Name on Hostinger (From Sign-Up to Purchase)

Step 1: Domain Name Provider Choose Karo

1. Hostinger ko domain provider ke liye choose karein.

Step 2: Hostinger Pe Domain Search Karo

1. Hostinger ki website pe jaake domain name search karein.

Step 3: Domain Select Karo

1. Domain name ko select karein jo aapko pasand aaye.

Step 4: Account Create Karo

1. Hostinger pe account create karein.

Step 5: Payment Complete Karo Or Login Karke Domain Registration Complete Karo

1. Payment complete karein aur domain ko apne account mein register karein.

Step 6: Hostinger Me Domains Section Me Navigate Karo

1. Hostinger ke dashboard pe domains section me navigate karein.

Step 7: Hostinger Me DNS/Nameservers Section Me Navigate Karo

1. DNS/Nameservers section me jaake configurations set karein.

Part 4: Configuring DNS on Hostinger for NodePort

Step 1: A Record Add Karna (EKS Cluster Node Se Connect Karne Ke Liye)

1. Hostinger DNS settings mein A Record add karein jo EKS Cluster Node se connect ho.

Step 2: A Record Add Karna (WWW ke liye)

1. WWW subdomain ke liye bhi A Record add karein.

Step 3: Records Add Karne Ke Baad Website Ko Domain Name Ke Through NodePort Se Access Karna

1. DNS records add karne ke baad website ko domain name se access karein.

Part 5: MySQL Secrets and ConfigMap Configuration

Step 1: mysql-secrets.yaml File Ka Kaam

1. mysql-secrets.yaml file ko configure karein jo database credentials store kare.

Step 2: mysql-configmap.yaml File Ka Kaam

1. mysql-configmap.yaml file ko configure karein jo MySQL configurations handle kare.

Step 3: service-account.yaml File Ka Kaam

1. MySQL ke liye service account configure karein.

Step 4: role.yaml File Ka Kaam

1. MySQL ke access permissions define karein.

Step 5: rolebinding.yaml File Ka Kaam

1. Role aur service account ko bind karein taake access control setup ho.

Part 6: MYSQL Database Pods and Services Deployment

Step 1: mysql-headless-service.yaml File Ka Kaam

1. mysql-headless-service.yaml file ko configure karein taake MySQL stateful ho.

Step 2: mysql-pv.yaml File Ka Kaam

2. Persistent Volume (PV) define karein jo MySQL ke data ko store kare.

Step 3: mysql-statefulset.yaml File Ka Kaam

2. MySQL StatefulSet deploy karein jo database ko manage kare.

Part 7: Accessing MySQL Database in EKS Cluster

Step 1: MySQL Database Access Karo

1. MySQL database ko Kubernetes cluster se access karein.

Part 8: Monitoring Using Prometheus and Loki With Grafana

Step 1: prometheus-daemonset.yaml File Ka Kaam

1. Prometheus ko deploy karne ke liye daemonset.yaml file configure karein.

Step 2: prometheus-rbac.yaml File Ka Kaam

1. Prometheus ke liye RBAC roles configure karein.

Step 3: prometheus-nodeport-service.yaml File Ka Kaam

1. Prometheus ke liye service ko configure karein.

Step 4: promtail-daemonset.yaml File Ka Kaam

1. Logs ko collect karne ke liye promtail daemonset file ko configure karein.

Step 5: loki-daemonset.yaml File Ka Kaam

1. Loki daemonset file ko configure karein.

Step 6: loki-nodeport-service.yaml File Ka Kaam

1. Loki ke liye service ko configure karein.

Step 7: grafana-deployment.yaml File Ka Kaam

1. Grafana ko deploy karne ke liye grafana-deployment.yaml file configure karein.

Step 8: Grafana Mein Prometheus Data Source Add Karna, Queries Add Karna Aur Dashboard Create Karna

1. Grafana mein Prometheus data source add karein, queries configure karein aur dashboard create karein.

Step 9: Grafana Mein Loki Data Source Add Karna Aur Dashboard Create Karna

1. Grafana mein Loki data source add karein aur dashboard configure karein.

Part 9: Accessing Prometheus, Loki, and Grafana Using a Domain Name

Step 1: Websites Ko Domain Name Se Access Karna

1. Pehle se configured DNS records ka use karte huye, ab Prometheus, Loki, aur Grafana websites ko domain name se access karein.