🌿 AWS EKS — Step-by-Step Guide to Setup via UI (English)

Goal: *Create and manage an Amazon EKS (Elastic Kubernetes Service) cluster using the AWS Management Console (UI).*

1️⃣ What is EKS?

EKS (Elastic Kubernetes Service) *is Amazon's managed Kubernetes service.*

- *It helps deploy and manage Kubernetes clusters easily.*
- *The control plane is managed by AWS.*
- *Worker nodes can run on AWS EC2 or Fargate.*

Benefits:

- *Built-in auto-scaling, high availability, and security.*
- *Easy integration with AWS services like IAM, VPC, and CloudWatch.*

2️⃣ Steps to Setup AWS EKS via UI

Step 1: Login to AWS Management Console

1. *Open the AWS Console.*
2. *Login using your AWS account credentials.*

Step 2: Search and Open EKS Service

1. *Type `EKS` in the console search bar.*
2. *Click on the EKS service.*

Step 3: Create Cluster

1. *Click **"Add cluster"** → **"Create"**.*
2. *Enter a **Cluster name** (e.g., `MyEKSCluster`).*
3. *Choose the Kubernetes version.*
4. *Select or create a **Cluster service role**.*
    - *The IAM role grants EKS permissions to manage the cluster.*

Step 4: Configure Networking

1. *Choose an existing VPC or create a new one.*
2. *Select subnets (public and private subnets).*
3. *Assign security groups.*
4. *Choose endpoint access: Public and/or Private.*

Step 5: Enable Logging (Optional)

1. *Select options for control plane logs:*
    - *API, Audit, Authenticator logs, etc.*

Step 6: Confirm Cluster Creation

1. *Click **Create**.*
2. *Cluster provisioning will complete in a few minutes.*
3. *When the status is `ACTIVE`, the cluster is ready.*

Step 7: Add Node Group

1. *On the cluster detail page, click **"Add node group"**.*
2. *Enter a node group name.*
3. *Select or create an IAM role.*
4. *Choose the node instance type (e.g., t3.medium).*
5. *Set the node count (minimum 2 recommended).*
6. *Choose subnets.*
7. *Click **Create**.*
8. *After node provisioning, the cluster will be ready.*

Step 8: Configure kubectl

1. *Install AWS CLI.*
2. *Run `aws eks update-kubeconfig --region <region> --name <cluster-name>`.*
3. *Verify nodes with `kubectl get nodes`.*

✅ *Summary*

- *Creating a cluster via AWS EKS UI is very easy.*
- *Steps: Create cluster → Configure networking → Add node group → Setup kubectl.*
- *This method is easiest for beginners and non-DevOps users.*

Your EKS cluster is now ready, and you can deploy Kubernetes workloads.