Deploy Super Mario Game on AWS EKS (Elastic Kubernetes Service)

A few prerequisites such as EKSCTL, kubectl, and GIT. We need to install all three of these before proceeding with the tutorial. Below are the official documentation links to install these tools:

- **Eksctl**
- **kubectl**
- **git**

1.Launch EC2 Instance (Ubuntu OS)

2. Create a S3 bucket (replace the name of bucket in backend.tf file with your bucket name)

3. Update your system

```
sudo apt update -y
```

4. Setup Docker:

```
sudo apt install docker.io -y

sudo systemctl start docker

sudo usermod -aG docker ubuntu

newgrp docker

docker --version
```

5. Setup Terraform:

```
wget -O- https://apt.releases.hashicorp.com/gpg | sudo gpg
--dearmor -o /usr/share/keyrings/hashicorp-archive-keyring.gpg

echo "deb
[signed-by=/usr/share/keyrings/hashicorp-archive-keyring.gpg]
https://apt.releases.hashicorp.com $(lsb_release -cs) main" |
sudo tee /etc/apt/sources.list.d/hashicorp.list

sudo apt update && sudo apt install terraform
```

6. Setup AWS CLI:

```
curl "https://awscli.amazonaws.com/awscli-exe-linux-x86_64.zip"
-o "awscliv2.zip"

sudo apt install unzip

unzip awscliv2.zip

sudo ./aws/install

aws --version
```

7. Install kubectl

Download the latest release with the command:

```
curl -LO "https://dl.k8s.io/release/$(curl -L -s
https://dl.k8s.io/release/stable.txt)/bin/linux/amd64/kubectl"
```

8. Install kubectl:

```
sudo install -o root -g root -m 0755 kubectl
/usr/local/bin/kubectl
```

Note: If you do not have root access on the target system, you can still install kubectl to the ~/.local/bin directory:

```
chmod +x kubectl
```

```
mkdir -p ~/.local/bin

mv ./kubectl ~/.local/bin/kubectl
```

9. Configure AWS

- Aws configure - -profile eks

10. Clone the Repo
https://github.com/itsdevopsprofile/Project-Super-Mario.git

11. Initialise Terraform
- terraform init

12. Apply the changes

- Terraform apply -auto-approve

13. log in to cluster
```
aws eks update-kubeconfig --name EKS_CLOUD --profile tf-user
--region ap-southeast-1
```

- Kubectl apply -f (service and deployment get created)
- kubectl get service
  (copy the external IP and access your application)

  Super Mario awaits you.