

## Terraform Project File Explanation

### Root Files:

1. main.tf – Used to call all modules and create full AWS infrastructure.
2. variables.tf – Stores all input variable definitions needed by modules.
3. outputs.tf – Shows output values after Terraform applies changes successfully.
4. terraform.tfvars – Provides real values for variables like region and names.
5. backend.tf – Configures remote backend for storing Terraform state safely.

### Module: ECR

1. modules/ecr/main.tf – Creates ECR repositories and required policies.
2. modules/ecr/variables.tf – Defines input values required for ECR setup.
3. modules/ecr/outputs.tf – Outputs repository URL and resource details.

### Module: EKS

1. modules/eks/main.tf – Creates EKS cluster and node groups.
2. modules/eks/variables.tf – Defines EKS name, version and node settings.
3. modules/eks/outputs.tf – Outputs cluster endpoint and kubeconfig details.

### Module: S3

1. modules/s3/main.tf – Creates S3 bucket used for storage or backend.
2. modules/s3/variables.tf – Defines bucket name and configuration inputs.
3. modules/s3/outputs.tf – Outputs bucket details like ARN and bucket name.

### Module: VPC

1. modules/vpc/main.tf – Creates VPC, subnets, route tables and networking.
2. modules/vpc/variables.tf – Defines VPC CIDR, subnet CIDRs and inputs.
3. modules/vpc/outputs.tf – Outputs VPC ID, subnet IDs and routing details.