1. Deploy K8s cluster and flask app in zone-1:

```
module.project_rds_p.aws_rds_cluster_instance.udacity_instance[1]: Still creating... [12m1s elapsed]
module.project_eks.aws_eks_node_group.node: Still creating... [51s elapsed]
module.project_rds_p.aws_rds_cluster_instance.udacity_instance[1]: Still creating... [12m11s elapsed]
module.project_eks.aws_eks_node_group.node: Still creating... [1m1s elapsed]
module.project_rds_p.aws_rds_cluster_instance.udacity_instance[1]: Still creating... [12m21s elapsed]
module.project_eks.aws_eks_node_group.node: Still creating... [1m11s elapsed]
module.project_rds_p.aws_rds_cluster_instance.udacity_instance[1]: Still creating... [12m31s elapsed]
module.project_eks.aws_eks_node_group.node: Still creating... [1m21s elapsed]
module.project_rds_p.aws_rds_cluster_instance.udacity_instance[1]: Still creating... [12m41s elapsed]
module.project_rds_p.aws_rds_cluster_instance.udacity_instance[1]: Creation complete after 12m41s [id=udacity-db-instance-1]
module.project_eks.aws_eks_node_group.node: Still creating... [1m31s elapsed]
module.project_eks.aws_eks_node_group.node: Still creating... [1m41s elapsed]
module.project_eks.aws_eks_node_group.node: Still creating... [1m51s elapsed]
module.project_eks.aws_eks_node_group.node: Creation complete after 2m0s [id=udacity-cluster:app-udacity-node-group]
kubernetes_namespace.udacity: Creating...
kubernetes_service.grafana-external: Creating...
kubernetes_namespace.udacity: Creation complete after 2s [id=udacity]

 Error: namespaces "monitoring" not found

    with kubernetes_service.grafana-external,
    on project.tf line 10, in resource "kubernetes_service" "grafana-external":
    10:   resource "kubernetes_service" "grafana-external" {
```

2. Grafana Dashboard showing Application metrics:

3. Deploy HA infra to zone-1:

```
Apply complete! Resources: 2 added, 1 changed, 2 destroyed.

Outputs:

account_id = "256152329862"
caller_arn = "arn:aws:iam::256152329862:user/devi"
caller_user = "AIDATXI66L2DGBHHRD4CK"
private_subnet_ids = [
  "subnet-0eb1e32928862a8b9",
  "subnet-077b9bf5d4910a904",
]
public_subnet_ids = [
  "subnet-047c6794b10c267ad",
  "subnet-0fe97556197b642b6",
]
vpc_id = "vpc-0c73d6befe873d09f"

User@Devi MINGW64 /d/Downloads/Planning-for-High-Availability-and-Incident-Response/project/starter-code/zone1 (master)
$
```

Target group and LB in zone-1

4. Deploy DR Infra to zone-2:

5. Deploy RDS to zone-1 and zone-2:

```
module.project_rds_s.aws_rds_cluster_instance.udacity_instance-s[0]: Still creating... [10m41s elapsed]
module.project_rds_s.aws_rds_cluster_instance.udacity_instance-s[0]: Still creating... [10m51s elapsed]
module.project_rds_s.aws_rds_cluster_instance.udacity_instance-s[0]: Still creating... [11m1s elapsed]
module.project_rds_s.aws_rds_cluster_instance.udacity_instance-s[0]: Still creating... [11m11s elapsed]
module.project_rds_s.aws_rds_cluster_instance.udacity_instance-s[0]: Still creating... [11m31s elapsed]
module.project_rds_s.aws_rds_cluster_instance.udacity_instance-s[0]: Still creating... [11m41s elapsed]
module.project_rds_s.aws_rds_cluster_instance.udacity_instance-s[0]: Still creating... [11m51s elapsed]
module.project_rds_s.aws_rds_cluster_instance.udacity_instance-s[0]: Still creating... [12m1s elapsed]
module.project_rds_s.aws_rds_cluster_instance.udacity_instance-s[0]: Still creating... [12m11s elapsed]
module.project_rds_s.aws_rds_cluster_instance.udacity_instance-s[0]: Still creating... [12m21s elapsed]
module.project_rds_s.aws_rds_cluster_instance.udacity_instance-s[0]: Still creating... [12m31s elapsed]
module.project_rds_s.aws_rds_cluster_instance.udacity_instance-s[0]: Still creating... [12m41s elapsed]
module.project_rds_s.aws_rds_cluster_instance.udacity_instance-s[0]: Still creating... [12m51s elapsed]
module.project_rds_s.aws_rds_cluster_instance.udacity_instance-s[0]: Still creating... [13m1s elapsed]
module.project_rds_s.aws_rds_cluster_instance.udacity_instance-s[0]: Still creating... [13m11s elapsed]
module.project_rds_s.aws_rds_cluster_instance.udacity_instance-s[0]: Still creating... [13m21s elapsed]
module.project_rds_s.aws_rds_cluster_instance.udacity_instance-s[0]: Still creating... [13m31s elapsed]
module.project_rds_s.aws_rds_cluster_instance.udacity_instance-s[0]: Still creating... [13m41s elapsed]
module.project_rds_s.aws_rds_cluster_instance.udacity_instance-s[0]: Still creating... [13m51s elapsed]
module.project_rds_s.aws_rds_cluster_instance.udacity_instance-s[0]: Still creating... [14m1s elapsed]
module.project_rds_s.aws_rds_cluster_instance.udacity_instance-s[0]: Creation complete after 14m8s [id=udacity-db-instance-0-s]

Apply complete! Resources: 4 added, 0 changed, 0 destroyed.

Outputs:

account_id = "256152329862"
caller_arn = "arn:aws:iam::256152329862:user/devi"
caller_user = "AIDATXI66L2DGBHHRD4CK"
private_subnet_ids = [
  "subnet-02dcd21a5bb0ee8c9",
  "subnet-024067e94ee9aed94",
]
public_subnet_ids = [
  "subnet-078cfd8dd330f69a2",
  "subnet-0f41a47f2545e0e30",
]
vpc_id = "vpc-0538f1b3d3bbe53cf"
User@Devi MINGW64 /d/Downloads/Planning-for-High-Availability-and-Incident-Response/project/starter-code/zone1 (master)
$ |
```
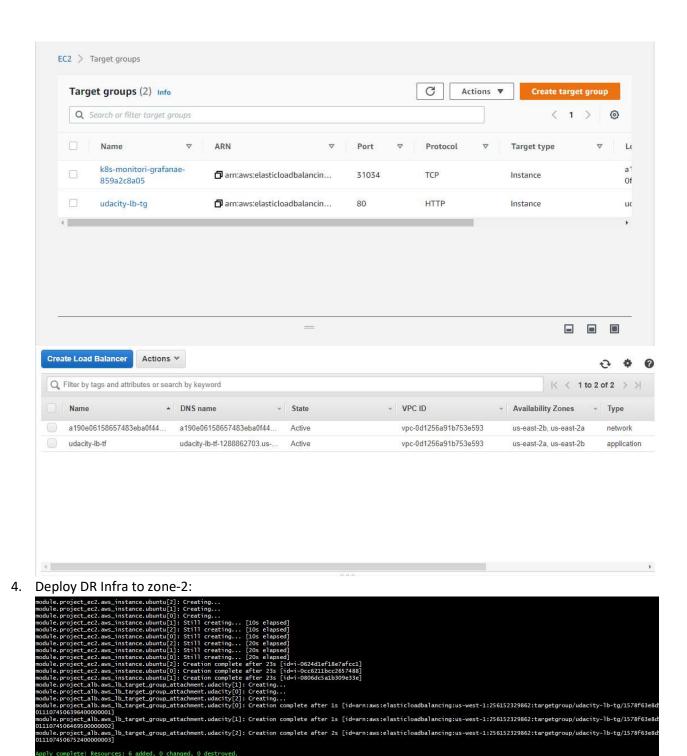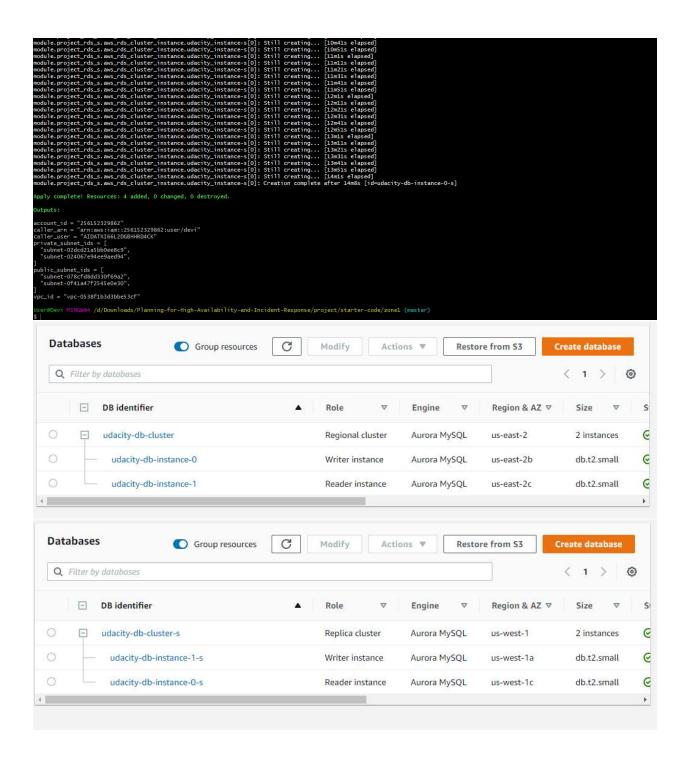
Databases — Group resources | Modify | Actions ▼ | Restore from S3 | Create database

Filter by databases   < 1 > ⚙

	DB identifier ▲	Role ▽	Engine ▽	Region & AZ ▽	Size ▽	S
○ ⊟	udacity-db-cluster	Regional cluster	Aurora MySQL	us-east-2	2 instances	⊘
○	udacity-db-instance-0	Writer instance	Aurora MySQL	us-east-2b	db.t2.small	⊘
○	udacity-db-instance-1	Reader instance	Aurora MySQL	us-east-2c	db.t2.small	⊘

Databases — Group resources | Modify | Actions ▼ | Restore from S3 | Create database

Filter by databases   < 1 > ⚙

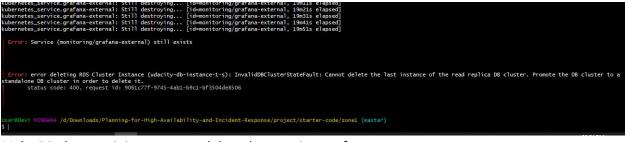|	DB identifier ▲	Role ▽	Engine ▽	Region & AZ ▽	Size ▽	S
○ ⊟	udacity-db-cluster-s	Replica cluster	Aurora MySQL	us-west-1	2 instances	⊘
○	udacity-db-instance-1-s	Writer instance	Aurora MySQL	us-west-1a	db.t2.small	⊘
○	udacity-db-instance-0-s	Reader instance	Aurora MySQL	us-west-1c	db.t2.small	⊘

6. Destroy all resources in all zones:

```
module.project_eks.aws_security_group.eks-cluster: Destroying... [id=sg-012fb396e602dc8d5]
module.project_eks.aws_iam_role_policy_attachment.cluster_AmazonEKSServicePolicy: Destruction complete after 1s
module.project_eks.aws_iam_role_policy_attachment.cluster_AmazonEKSClusterPolicy: Destruction complete after 1s
module.project_eks.aws_security_group.eks-cluster: Destruction complete after 3s

Destroy complete! Resources: 21 destroyed.

User@Devi MINGW64 /d/Downloads/Planning-for-High-Availability-and-Incident-Response/project/starter-code/zone2 (master)
$ |
```

```
kubernetes_service.grafana-external: Still destroying... [id=monitoring/grafana-external, 19m11s elapsed]
kubernetes_service.grafana-external: Still destroying... [id=monitoring/grafana-external, 19m21s elapsed]
kubernetes_service.grafana-external: Still destroying... [id=monitoring/grafana-external, 19m31s elapsed]
kubernetes_service.grafana-external: Still destroying... [id=monitoring/grafana-external, 19m41s elapsed]
kubernetes_service.grafana-external: Still destroying... [id=monitoring/grafana-external, 19m51s elapsed]

 Error: Service (monitoring/grafana-external) still exists



 Error: error deleting RDS Cluster Instance (udacity-db-instance-1-s): InvalidDBClusterStateFault: Cannot delete the last instance of the read replica DB cluster. Promote the DB cluster to a
standalone DB cluster in order to delete it.
        status code: 400, request id: 9061c77f-9745-4ab1-b9c1-bf3504de8506


User@Devi MINGW64 /d/Downloads/Planning-for-High-Availability-and-Incident-Response/project/starter-code/zone1 (master)
$ |
```

Make DR cluster a Primary one and then destroy via terraform.

DB identifier		Role	Engine	Region & AZ	Size
udacity-db-cluster-s		Regional cluster	Aurora MySQL	us-west-1	1 instance
udacity-db-instance-1-s		Writer instance	Aurora MySQL	us-west-1a	db.t2.small