

### 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

EC2 > Target groups

Target groups (2) Info

Search or filter target groups

<input type="checkbox"/>	Name	ARN	Port	Protocol	Target type	...
<input type="checkbox"/>	k8s-monitori-grafanae-859a2c8a05	arn:aws:elasticloadbalancing:us-east-2:1256152329862:targetgroup/k8s-monitori-grafanae-859a2c8a05/1578f63e8d0111074506469500000002	31034	TCP	Instance	...
<input type="checkbox"/>	udacity-lb-tg	arn:aws:elasticloadbalancing:us-east-2:1256152329862:targetgroup/udacity-lb-tg/1578f63e8d0111074506752400000003	80	HTTP	Instance	...

Create Load Balancer Actions

Filter by tags and attributes or search by keyword

<input type="checkbox"/>	Name	DNS name	State	VPC ID	Availability Zones	Type
<input type="checkbox"/>	a190e06158657483eba0f44...	a190e06158657483eba0f44...	Active	vpc-0d1256a91b753e593	us-east-2b, us-east-2a	network
<input type="checkbox"/>	udacity-lb-tf	udacity-lb-tf-1288862703.us-...	Active	vpc-0d1256a91b753e593	us-east-2a, us-east-2b	application

#### 4. Deploy DR Infra to zone-2:

```
module.project_ec2.aws_instance.ubuntu[2]: Creating...
module.project_ec2.aws_instance.ubuntu[1]: Creating...
module.project_ec2.aws_instance.ubuntu[0]: Creating...
module.project_ec2.aws_instance.ubuntu[1]: Still creating... [10s elapsed]
module.project_ec2.aws_instance.ubuntu[2]: Still creating... [10s elapsed]
module.project_ec2.aws_instance.ubuntu[0]: Still creating... [10s elapsed]
module.project_ec2.aws_instance.ubuntu[2]: Still creating... [20s elapsed]
module.project_ec2.aws_instance.ubuntu[1]: Still creating... [20s elapsed]
module.project_ec2.aws_instance.ubuntu[0]: Still creating... [20s elapsed]
module.project_ec2.aws_instance.ubuntu[2]: Creation complete after 23s [id=i-0624d1ef18e7afcc1]
module.project_ec2.aws_instance.ubuntu[0]: Creation complete after 23s [id=i-0cc6211bcc2657488]
module.project_ec2.aws_instance.ubuntu[1]: Creation complete after 23s [id=i-0806dc5a1b309e33e]
module.project_alb.aws_lb_target_group_attachment.udacity[1]: Creating...
module.project_alb.aws_lb_target_group_attachment.udacity[0]: Creating...
module.project_alb.aws_lb_target_group_attachment.udacity[2]: Creating...
module.project_alb.aws_lb_target_group_attachment.udacity[0]: Creation complete after 1s [id=arn:aws:elasticloadbalancing:us-west-1:256152329862:targetgroup/udacity-lb-tg/1578f63e8d0111074506396400000001]
module.project_alb.aws_lb_target_group_attachment.udacity[1]: Creation complete after 1s [id=arn:aws:elasticloadbalancing:us-west-1:256152329862:targetgroup/udacity-lb-tg/1578f63e8d0111074506469500000002]
module.project_alb.aws_lb_target_group_attachment.udacity[2]: Creation complete after 2s [id=arn:aws:elasticloadbalancing:us-west-1:256152329862:targetgroup/udacity-lb-tg/1578f63e8d0111074506752400000003]

Apply complete! Resources: 6 added, 0 changed, 0 destroyed.

Outputs:
account_id = "256152329862"
caller_arn = "arn:aws:iam::256152329862:user/devi"
caller_user = "AIDATXI66L2DGBHRD4CK"

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

#### 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... [11m21s 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 [1d=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-02dcd21a5bb0e8c9",
  "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

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	<div><div></div></div> DB identifier	<div><div></div></div> Role	<div><div></div></div> Engine	<div><div></div></div> Region & AZ	<div><div></div></div> Size	
<div></div>	<div><div></div></div> udacity-db-cluster	Regional cluster	Aurora MySQL	us-east-2	2 instances	<div></div>
<div></div>	<div><div></div></div> udacity-db-instance-0	Writer instance	Aurora MySQL	us-east-2b	db.t2.small	<div></div>
<div></div>	<div><div></div></div> udacity-db-instance-1	Reader instance	Aurora MySQL	us-east-2c	db.t2.small	<div></div>

Databases

Group resources

Modify

Actions ▾

Restore from S3

Create database

Q

Filter by databases

<

1>

	<div><div></div>DB identifier</div>	<div><div></div>Role</div>	<div><div></div>Engine</div>	<div><div></div>Region &amp; AZ</div>	<div><div></div>Size</div>	
<div></div>	<div><div></div>udacity-db-cluster-s</div>	Replica cluster	Aurora MySQL	us-west-1	2 instances	<div></div>
<div></div>	<div><div></div>udacity-db-instance-1-s</div>	Writer instance	Aurora MySQL	us-west-1a	db.t2.small	<div></div>
<div></div>	<div><div></div>udacity-db-instance-0-s</div>	Reader instance	Aurora MySQL	us-west-1c	db.t2.small	<div></div>

## 6. Destroy all resources in all zones:

```

module.project_eks.aws_security_group.eks-cluster: Destroying... [1d=sg-012f0396e602dc8d3]
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.

Databases					
<input checked="" type="checkbox"/> Group resources			Modify	Actions ▼	Restore from S3
<input type="text" value="Filter by databases"/>					< 1 >
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