Conestoga College

Cloud Development and Operations

Sem - 2

Cloud Architectures and Infrastructure as Code

PROG8870

Final Project

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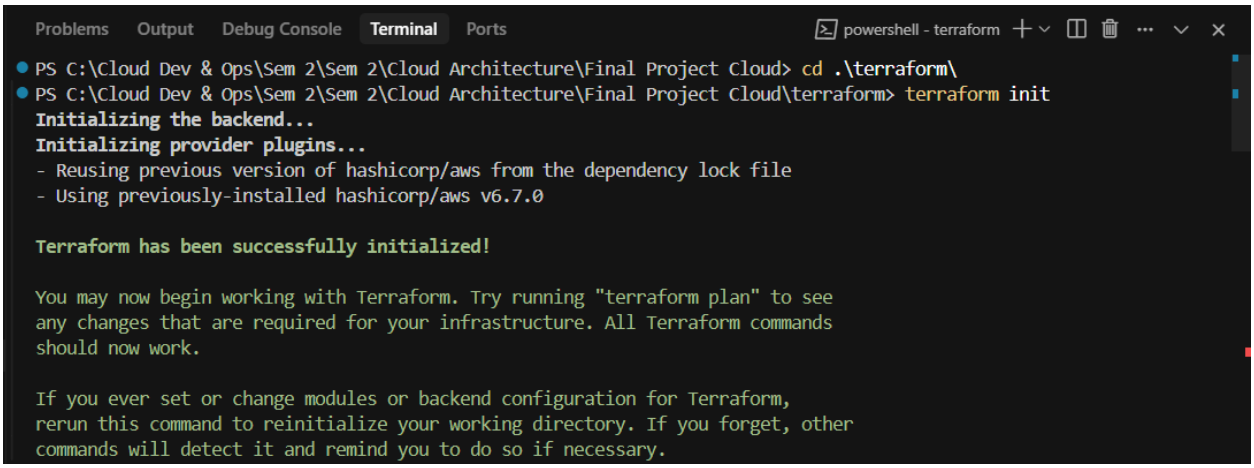
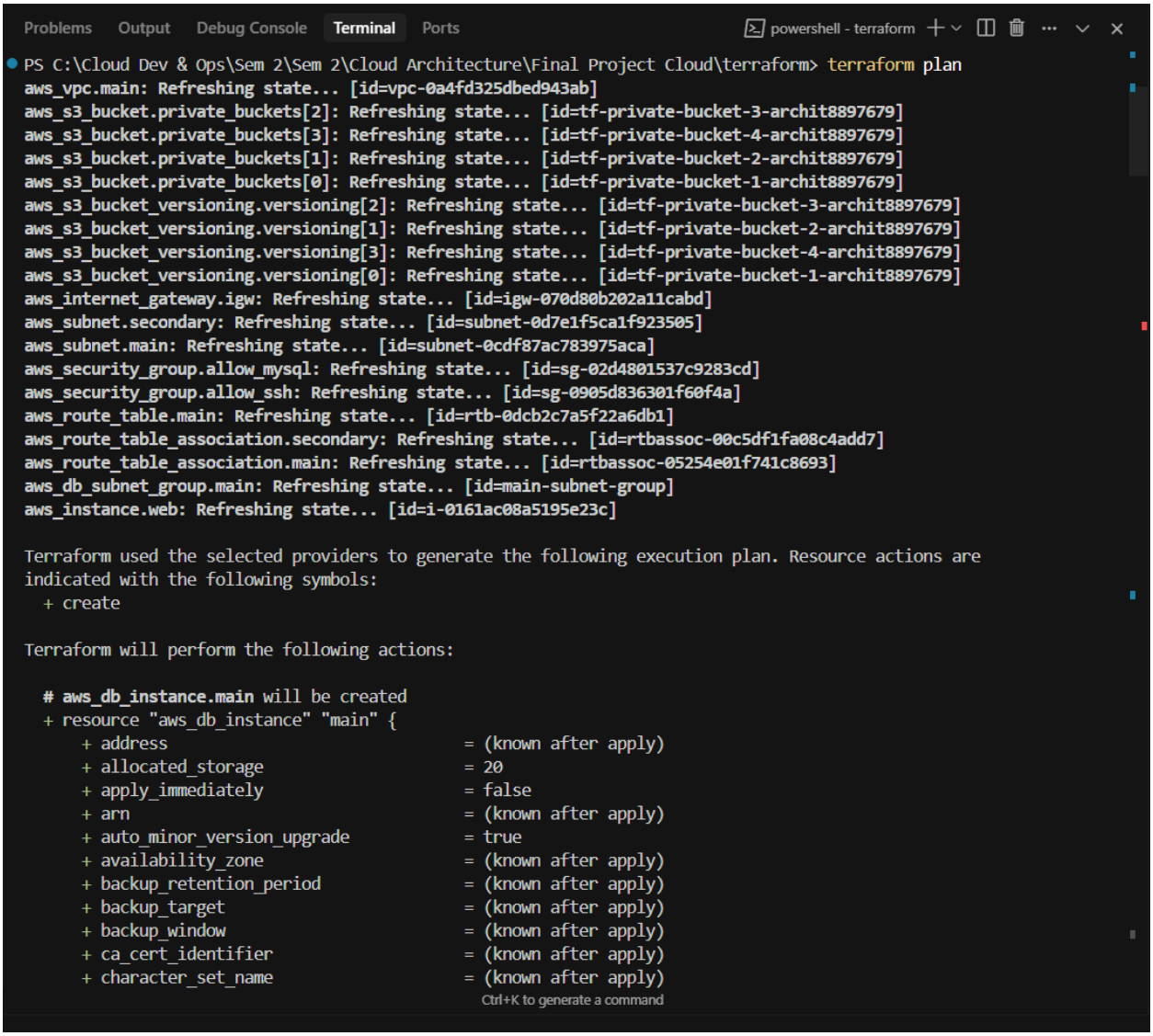
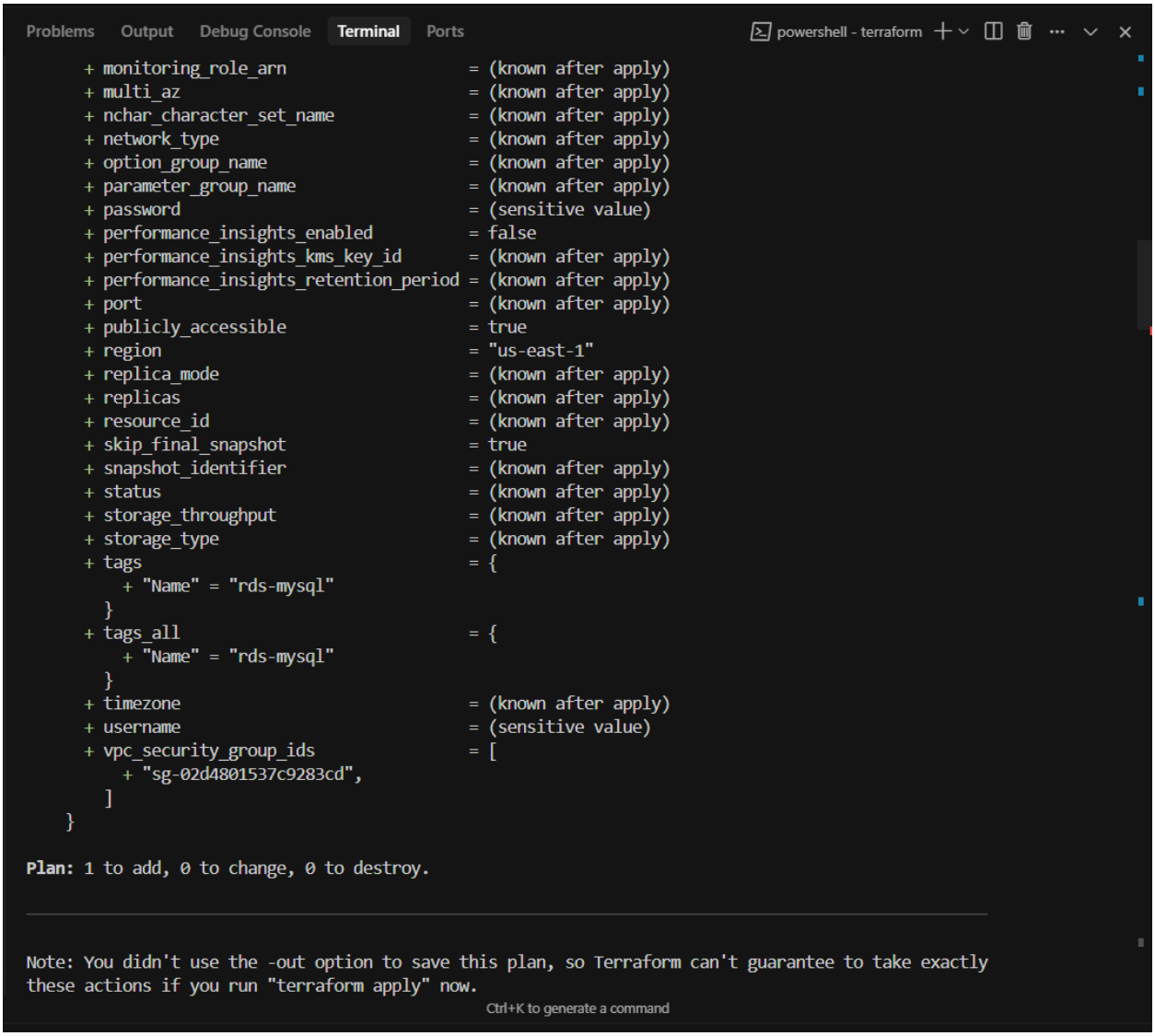
Professor:- Vikas Vattikonda

Terraform init:

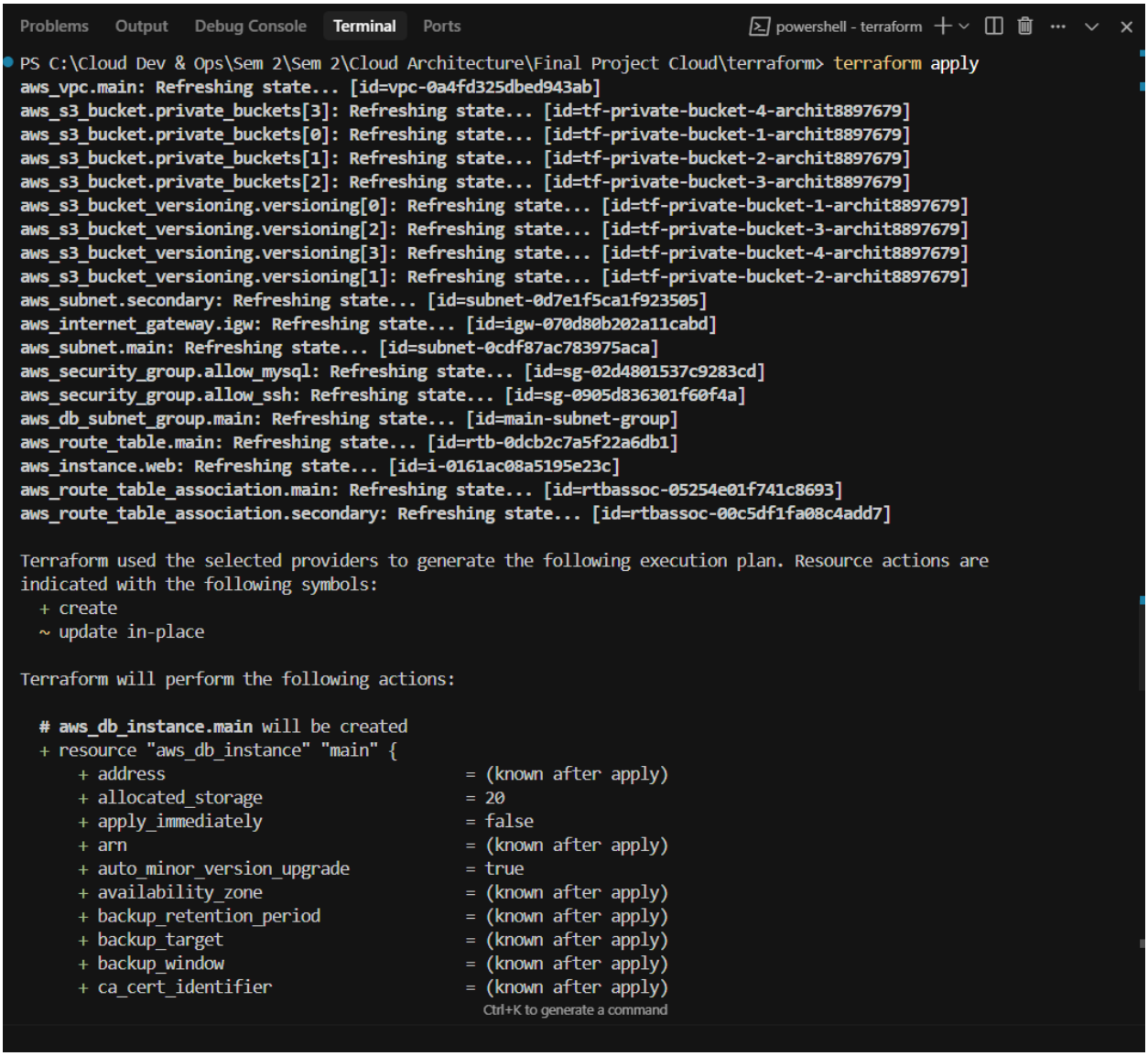


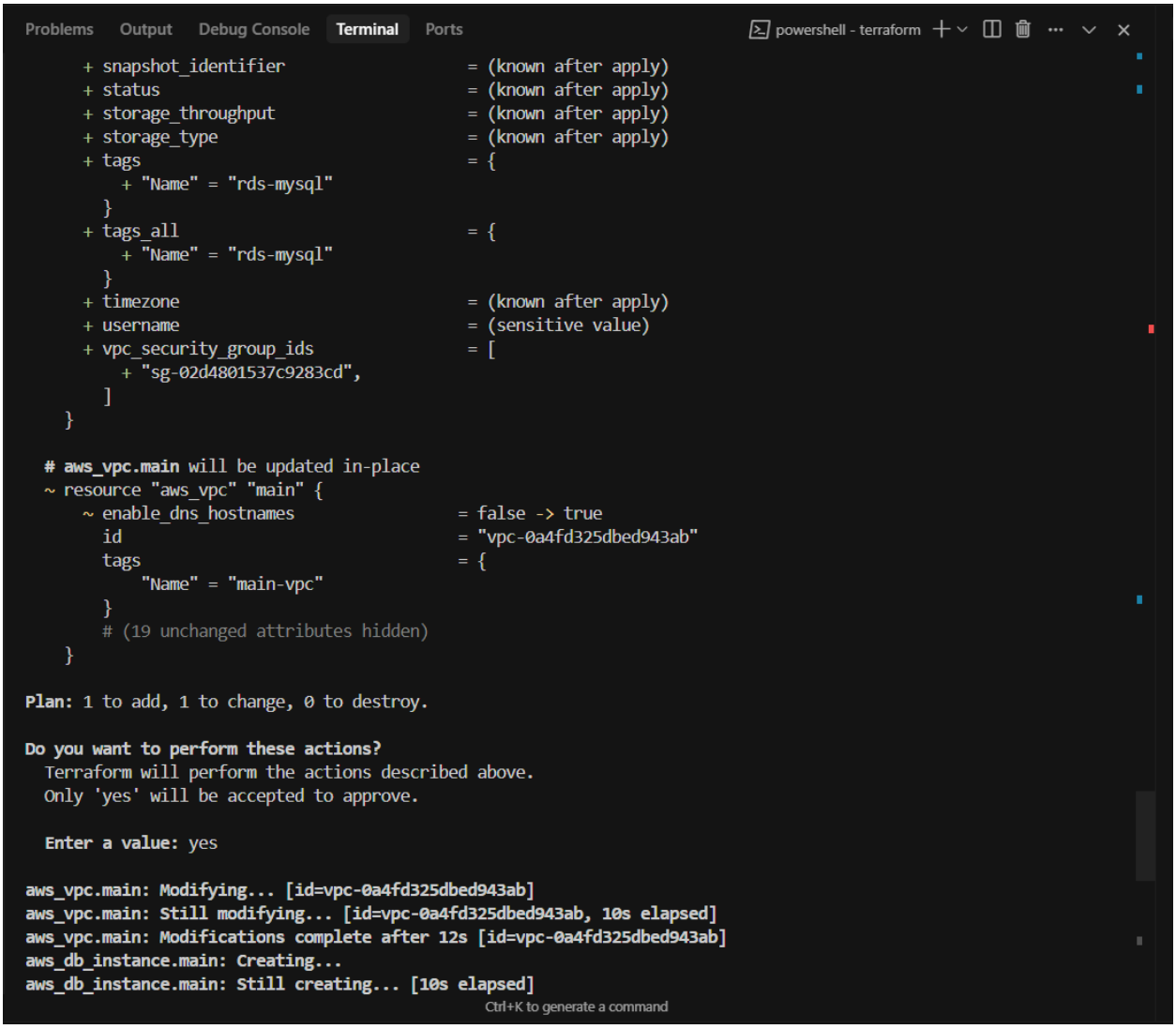
Terraform plan:

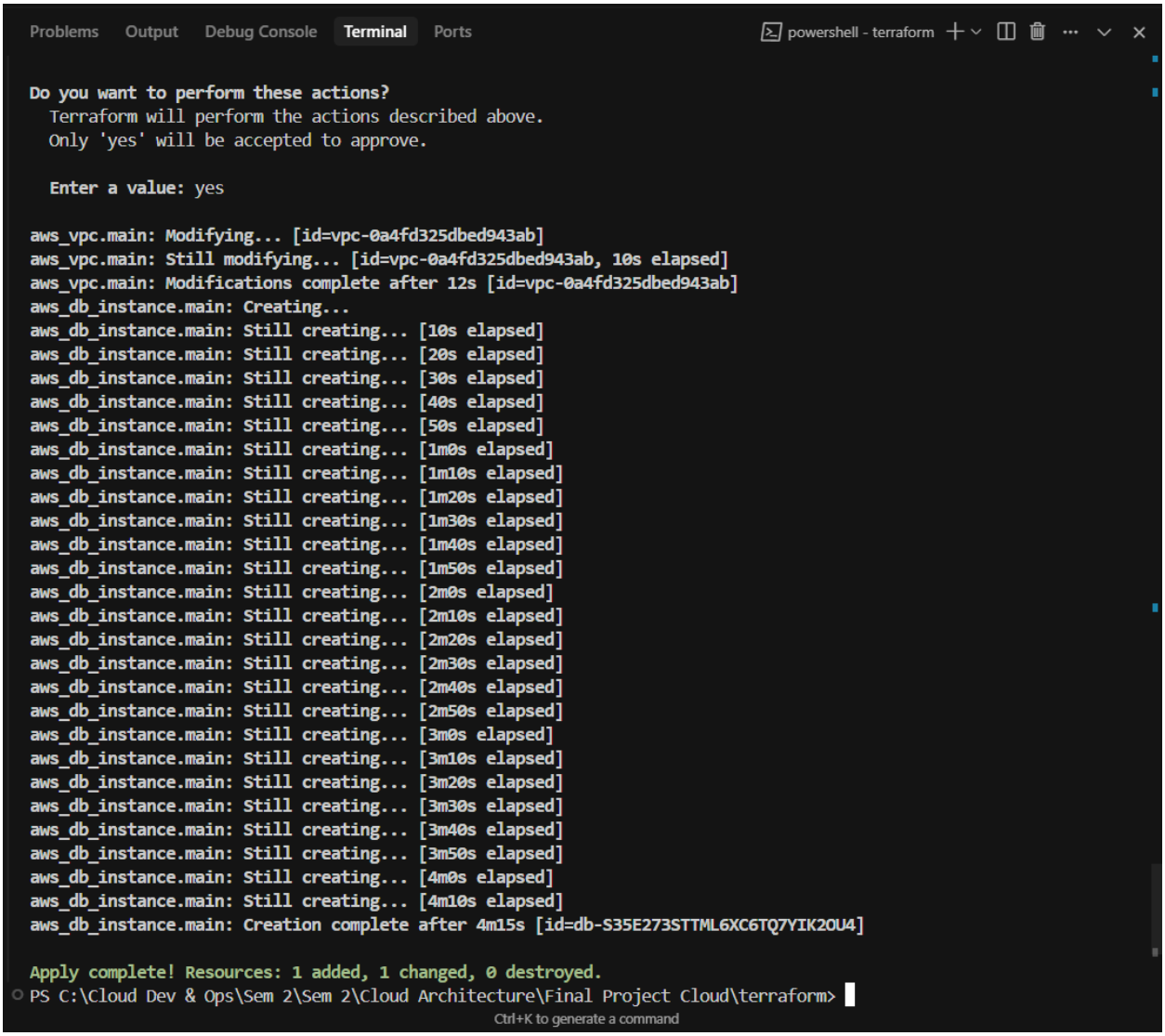

Problems
Output
Debug Console
Terminal
Ports
powershell - terraform
PS C:\Cloud Dev & Ops\Sem 2\Sem 2\Cloud Architecture\Final Project Cloud\terraform> terraform plan
aws_vpc.main: Refreshing state... [id=vpc-0a4fd325dbed943ab]
aws_s3_bucket.private_buckets[2]: Refreshing state... [id=tf-private-bucket-3-archit8897679]
aws_s3_bucket.private_buckets[3]: Refreshing state... [id=tf-private-bucket-4-archit8897679]
aws_s3_bucket.private_buckets[1]: Refreshing state... [id=tf-private-bucket-2-archit8897679]
aws_s3_bucket.private_buckets[0]: Refreshing state... [id=tf-private-bucket-1-archit8897679]
aws_s3_bucket_versioning.versioning[2]: Refreshing state... [id=tf-private-bucket-3-archit8897679]
aws_s3_bucket_versioning.versioning[1]: Refreshing state... [id=tf-private-bucket-2-archit8897679]
aws_s3_bucket_versioning.versioning[3]: Refreshing state... [id=tf-private-bucket-4-archit8897679]
aws_s3_bucket_versioning.versioning[0]: Refreshing state... [id=tf-private-bucket-1-archit8897679]
aws_internet_gateway.igw: Refreshing state... [id=igw-070d80b202a11cabd]
aws_subnet.secondary: Refreshing state... [id=subnet-0d7e1f5ca1f923505]
aws_subnet.main: Refreshing state... [id=subnet-0cdf87ac783975aca]
aws_security_group.allow_mysql: Refreshing state... [id=sg-02d4801537c9283cd]
aws_security_group.allow_ssh: Refreshing state... [id=sg-0905d836301f60f4a]
aws_route_table.main: Refreshing state... [id=rtb-0dcb2c7a5f22a6db1]
aws_route_table_association.secondary: Refreshing state... [id=rtbassoc-00c5df1fa08c4add7]
aws_route_table_association.main: Refreshing state... [id=rtbassoc-05254e01f741c8693]
aws_db_subnet_group.main: Refreshing state... [id=main-subnet-group]
aws_instance.web: Refreshing state... [id=i-0161ac08a5195e23c]
Terraform used the selected providers to generate the following execution plan. Resource actions are
indicated with the following symbols:
+ create
Terraform will perform the following actions:
# aws_db_instance.main will be created
+ resource "aws_db_instance" "main" {
+ address = (known after apply)
+ allocated_storage = 20
+ apply_immediately = false
+ arn = (known after apply)
+ auto_minor_version_upgrade = true
+ availability_zone = (known after apply)
+ backup_retention_period = (known after apply)
+ backup_target = (known after apply)
+ backup_window = (known after apply)
+ ca_cert_identifier = (known after apply)
+ character_set_name = (known after apply)
Ctrl+K to generate a command



Terraform apply:

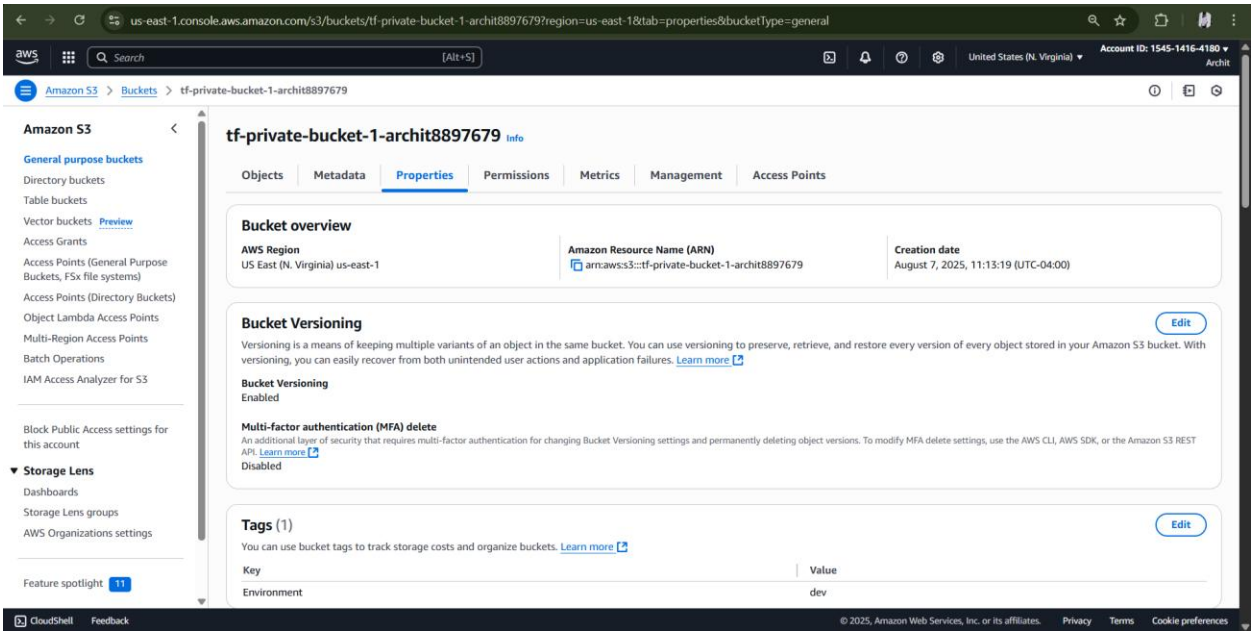

Problems
Output
Debug Console
Terminal
Ports
powershell - terraform
PS C:\Cloud Dev & Ops\Sem 2\Sem 2\Cloud Architecture\Final Project Cloud\terraform> terraform apply
aws_vpc.main: Refreshing state... [id=vpc-0a4fd325dbed943ab]
aws_s3_bucket.private_buckets[3]: Refreshing state... [id=tf-private-bucket-4-archit8897679]
aws_s3_bucket.private_buckets[0]: Refreshing state... [id=tf-private-bucket-1-archit8897679]
aws_s3_bucket.private_buckets[1]: Refreshing state... [id=tf-private-bucket-2-archit8897679]
aws_s3_bucket.private_buckets[2]: Refreshing state... [id=tf-private-bucket-3-archit8897679]
aws_s3_bucket_versioning.versioning[0]: Refreshing state... [id=tf-private-bucket-1-archit8897679]
aws_s3_bucket_versioning.versioning[2]: Refreshing state... [id=tf-private-bucket-3-archit8897679]
aws_s3_bucket_versioning.versioning[3]: Refreshing state... [id=tf-private-bucket-4-archit8897679]
aws_s3_bucket_versioning.versioning[1]: Refreshing state... [id=tf-private-bucket-2-archit8897679]
aws_subnet.secondary: Refreshing state... [id=subnet-0d7e1f5ca1f923505]
aws_internet_gateway.igw: Refreshing state... [id=igw-070d80b202a11cabd]
aws_subnet.main: Refreshing state... [id=subnet-0cdf87ac783975aca]
aws_security_group.allow_mysql: Refreshing state... [id=sg-02d4801537c9283cd]
aws_security_group.allow_ssh: Refreshing state... [id=sg-0905d836301f60f4a]
aws_db_subnet_group.main: Refreshing state... [id=main-subnet-group]
aws_route_table.main: Refreshing state... [id=rtb-0dcb2c7a5f22a6db1]
aws_instance.web: Refreshing state... [id=i-0161ac08a5195e23c]
aws_route_table_association.main: Refreshing state... [id=rtbassoc-05254e01f741c8693]
aws_route_table_association.secondary: Refreshing state... [id=rtbassoc-00c5df1fa08c4add7]
Terraform used the selected providers to generate the following execution plan. Resource actions are
indicated with the following symbols:
+ create
~ update in-place
Terraform will perform the following actions:
# aws_db_instance.main will be created
+ resource "aws_db_instance" "main" {
+ address = (known after apply)
+ allocated_storage = 20
+ apply_immediately = false
+ arn = (known after apply)
+ auto_minor_version_upgrade = true
+ availability_zone = (known after apply)
+ backup_retention_period = (known after apply)
+ backup_target = (known after apply)
+ backup_window = (known after apply)
+ ca_cert_identifier = (known after apply)
Ctrl+K to generate a command


Problems
Output
Debug Console
Terminal
Ports
powershell - terraform
+ snapshot_identifier = (known after apply)
+ status = (known after apply)
+ storage_throughput = (known after apply)
+ storage_type = (known after apply)
+ tags = {
+ "Name" = "rds-mysql"
}
+ tags_all = {
+ "Name" = "rds-mysql"
}
+ timezone = (known after apply)
+ username = (sensitive value)
+ vpc_security_group_ids = [
+ "sg-02d4801537c9283cd",
]
}
# aws_vpc.main will be updated in-place
~ resource "aws_vpc" "main" {
~ enable_dns_hostnames = false -> true
id = "vpc-0a4fd325dbed943ab"
tags = {
"Name" = "main-vpc"
}
# (19 unchanged attributes hidden)
}
Plan: 1 to add, 1 to change, 0 to destroy.
Do you want to perform these actions?
Terraform will perform the actions described above.
Only 'yes' will be accepted to approve.
Enter a value: yes
aws_vpc.main: Modifying... [id=vpc-0a4fd325dbed943ab]
aws_vpc.main: Still modifying... [id=vpc-0a4fd325dbed943ab, 10s elapsed]
aws_vpc.main: Modifications complete after 12s [id=vpc-0a4fd325dbed943ab]
aws_db_instance.main: Creating...
aws_db_instance.main: Still creating... [10s elapsed]
Ctrl+K to generate a command

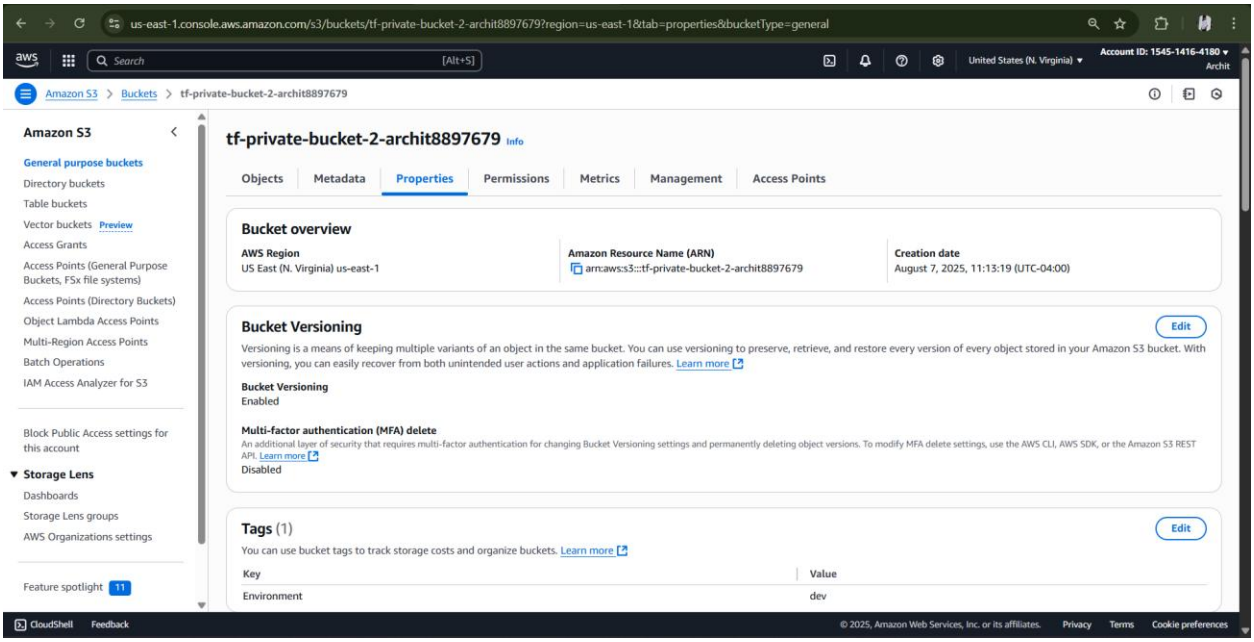


S3 Bucket + Versioning Enable

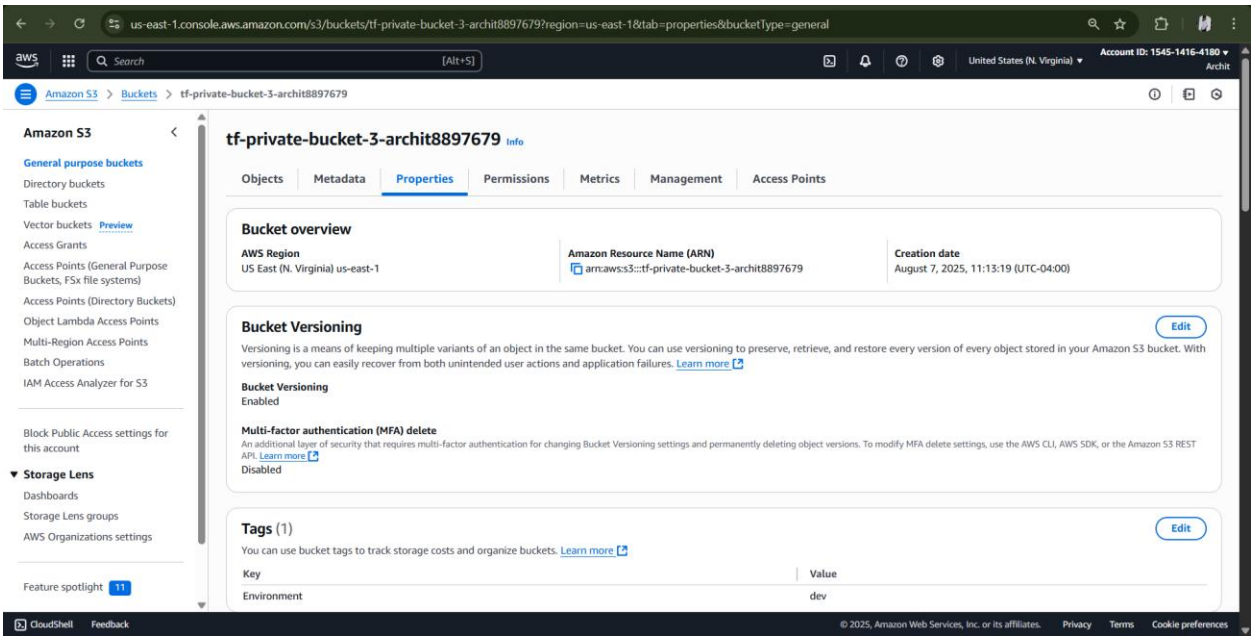
1. tf-private-bucket-1-archit8897679



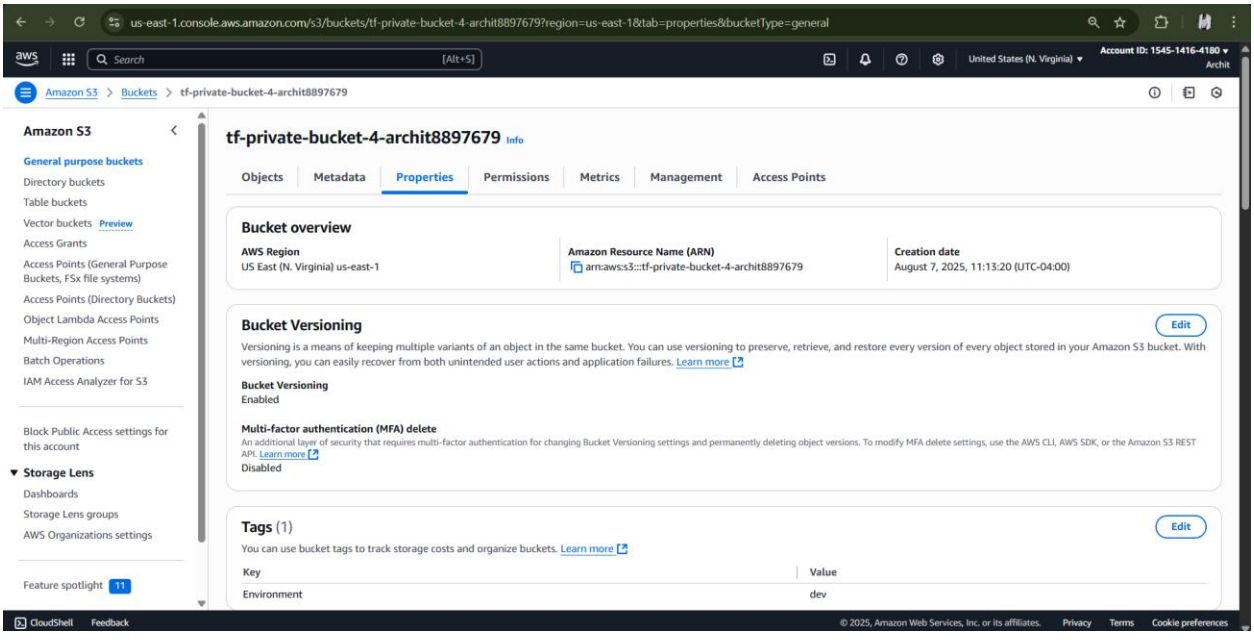
2. tf-private-bucket-2-archit8897679



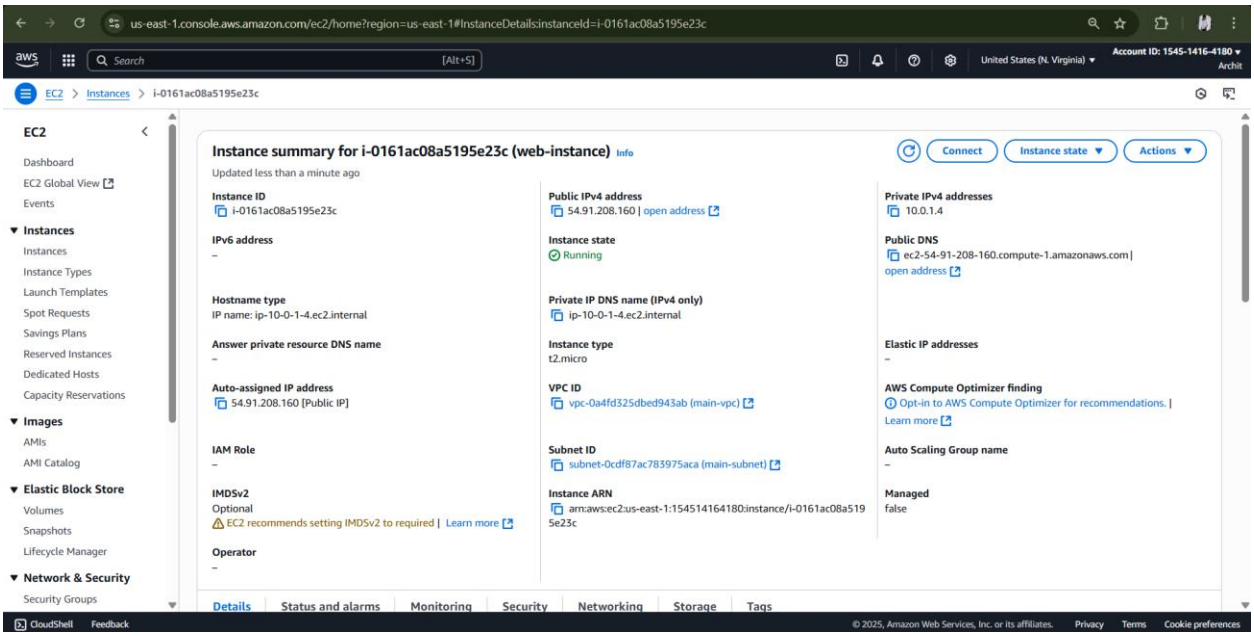
3. tf-private-bucket-3-archit8897679



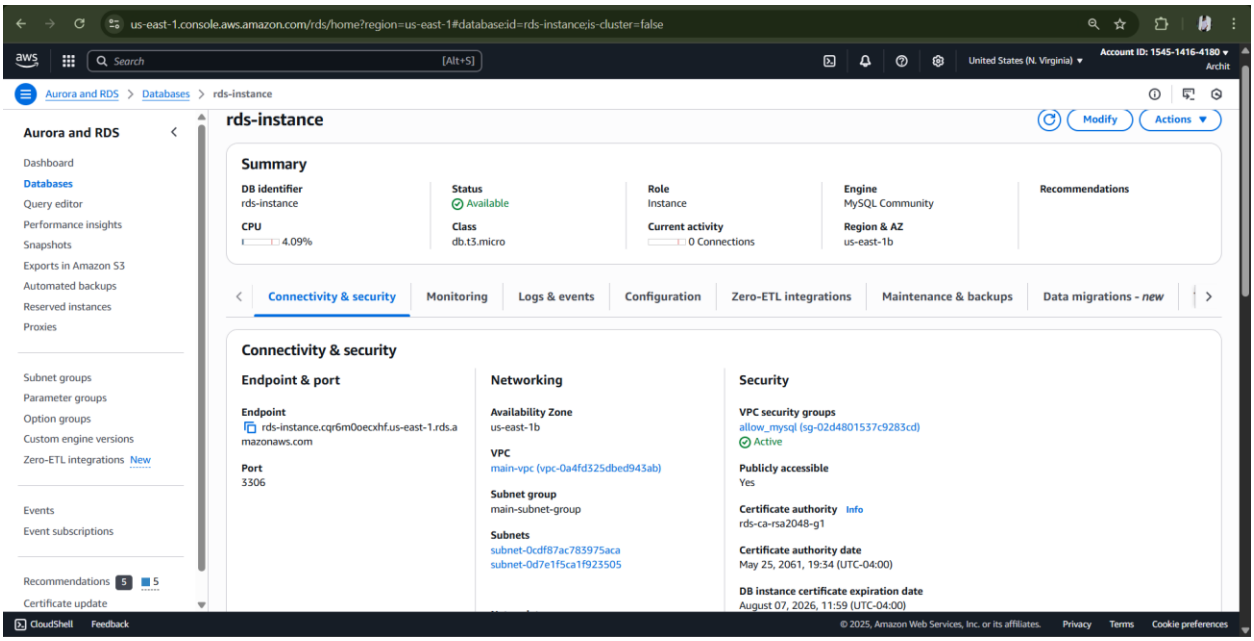
4. tf-private-bucket-4-archit8897679



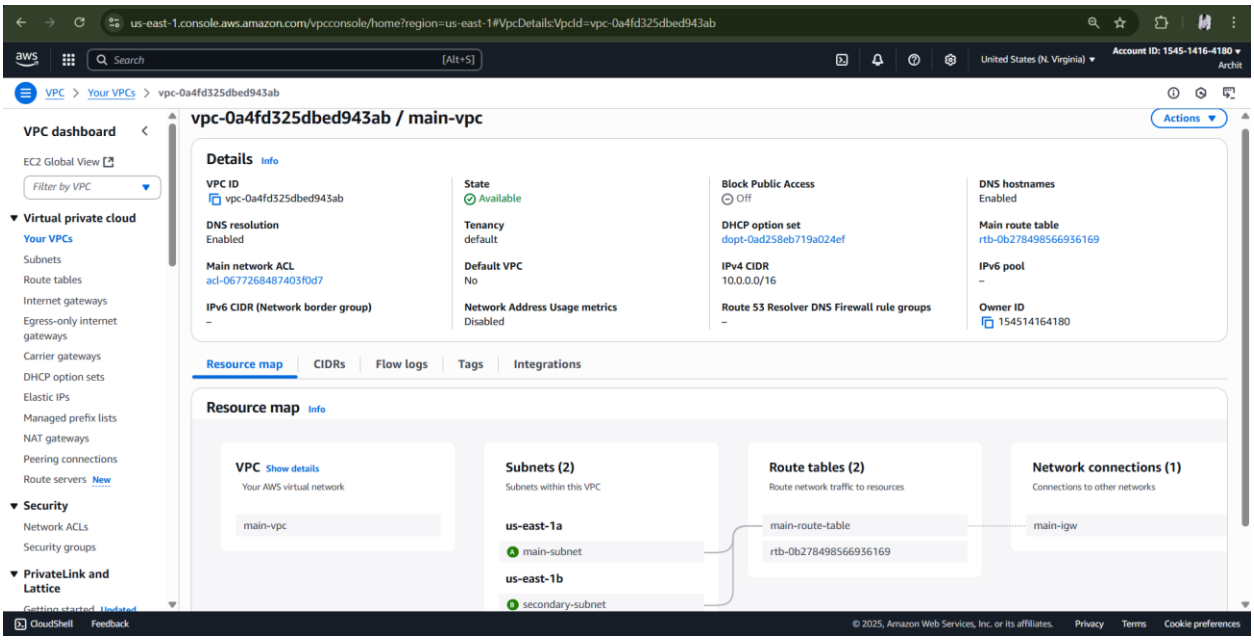
EC2 Instance



RDS Database

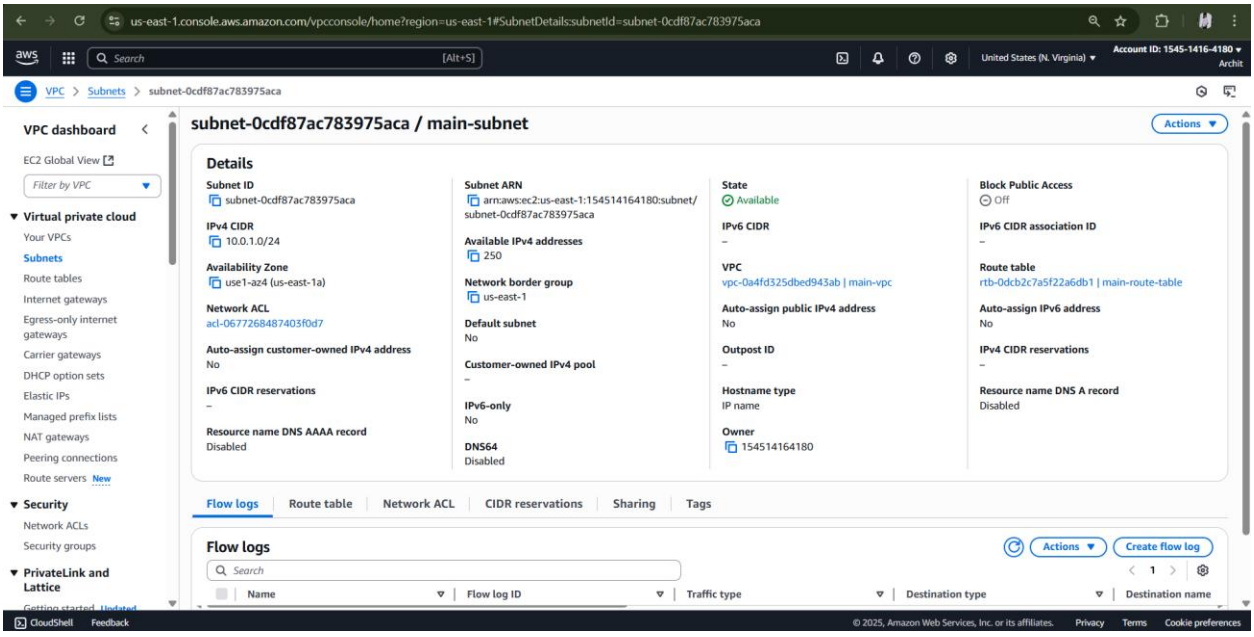


VPC

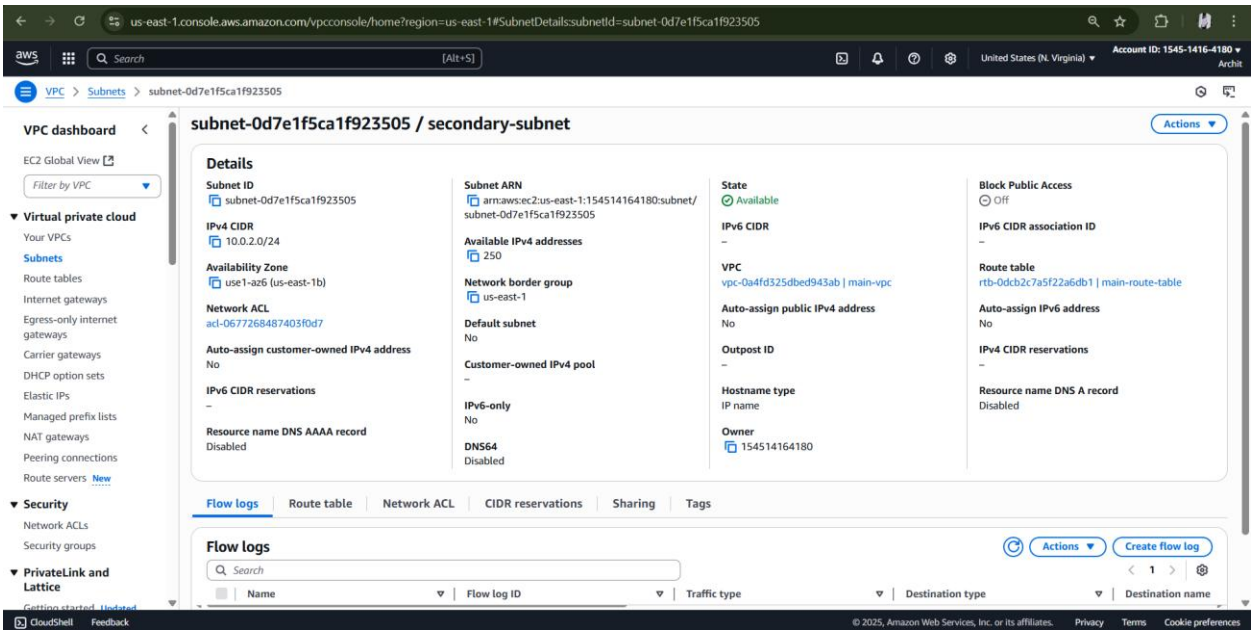


Subnets

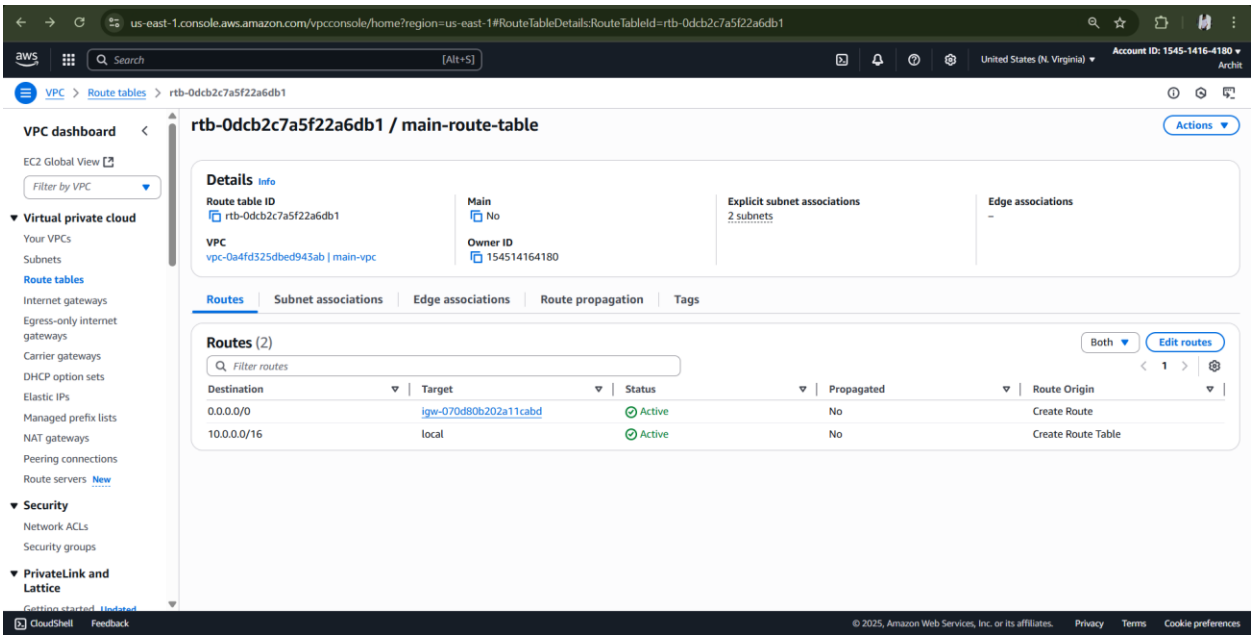
1. main subnet



2. secondary subnet

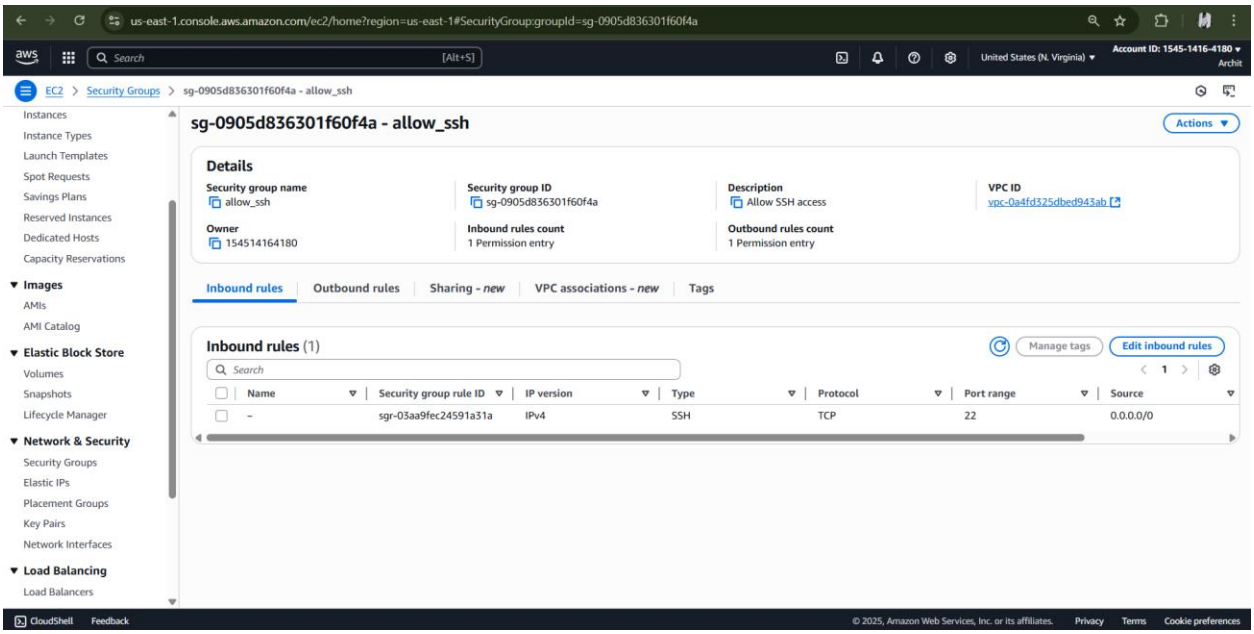


Route Tables

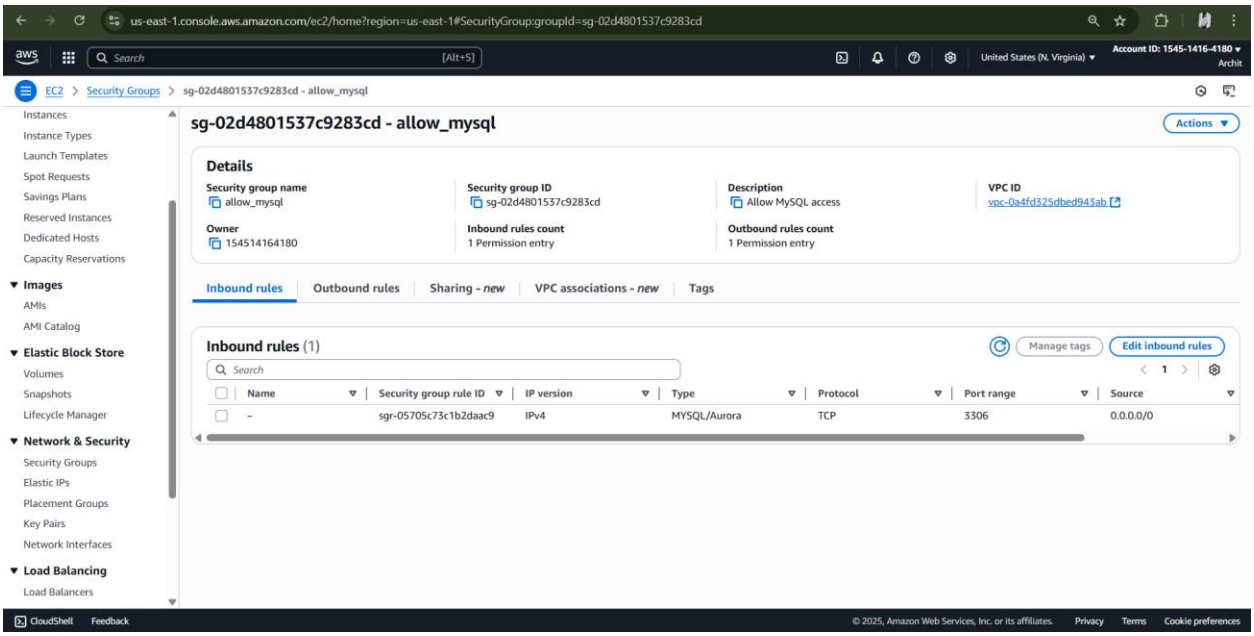


Security Groups

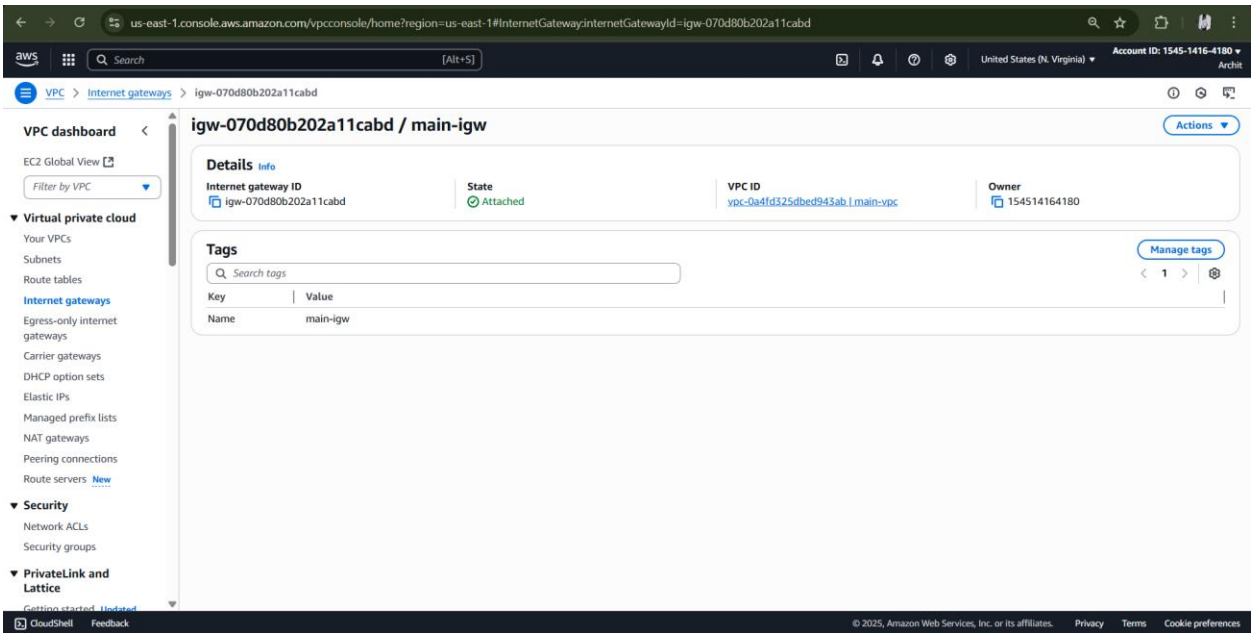
1. allow_ssh with port 22



2. allow_mysql with port 3306

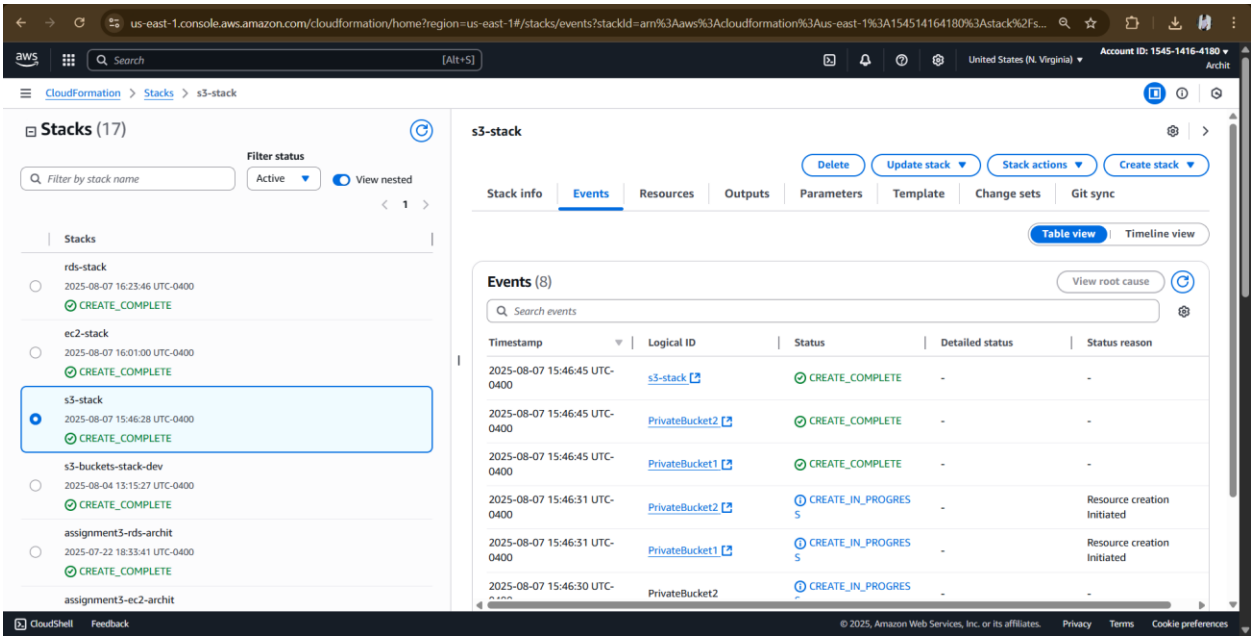


Internet Gateway

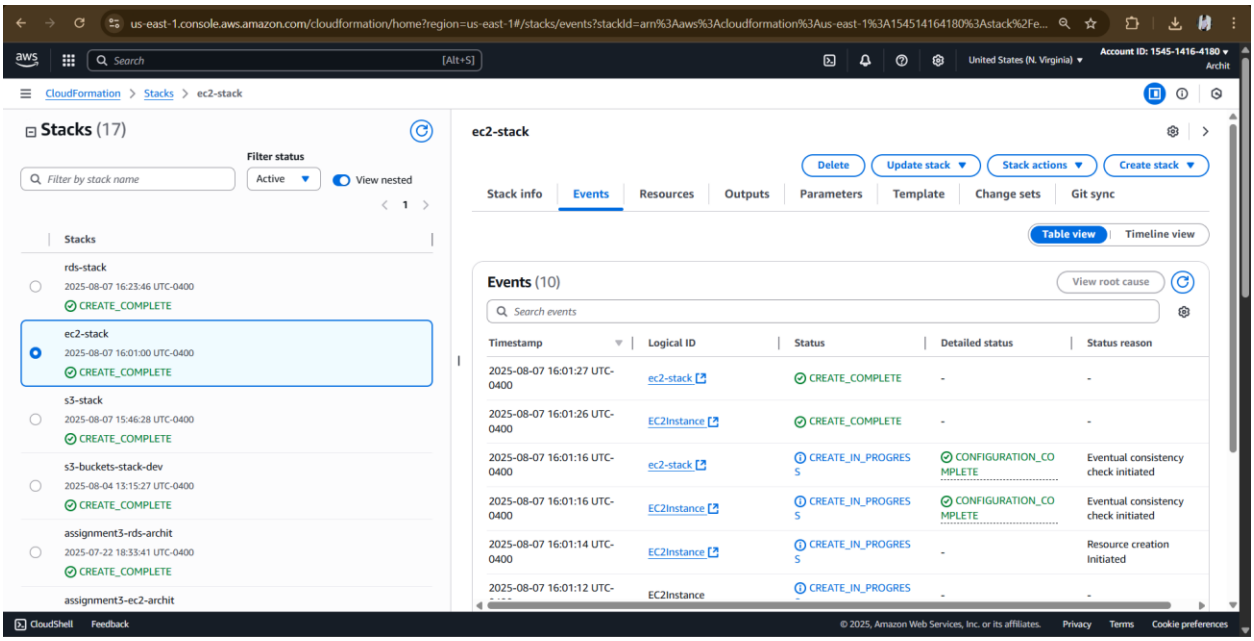


CloudFormation

S3 Stack



EC2 Stack



RDS Stack