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|---|---|
| | Virtual Private Cloud (VPC) SOP<br>(VPC, Subnets, Route Tables, Internet Gateway, NAT Gateway, Security Group etc) |

## Revision History

| Date | Version | Changed Sections | Author | Approver |
|---|---|---|---|---|
| 11/19/2017 | 1.0 | Created | Samal Dimdung | |
| | | | | |

# Document Controller Number

| Document Reference | Project |
|---|---|
| | |

# 1 Purpose

The purpose of the document is to provide guidance on how to use the CloudFormation template to create AWS Cloud Infrastructure with predefined templates such as building whole Network Infrastructure and use the same code/templates repeatedly for multiple environment with no time.

# 2 Tools Required

| Tool Name | Tool Location | Tool Description |
|---|---|---|
| AWS Console Access | AWs Account | AWS Console can be used to run CloudFormation Templates to create Cloud infrastructure |
| AWS CLI/AWS SDK | | AWS CLI or AWS SDK can be used if you don't want to use AWs Console to run the CloudFormation Templates |
| | | |

# 3 Associated Documents

The follow documents are associated with the Standard Operating Procedure and are required in order to complete it.  For Google Docs/Wiki please type the document name and apply hyper link to google doc.

| Document Name | Date Entered |
|---|---|
| Bootstrapping New AWS Account | xx-xx-xxxx |
| AWS Infrastructure Provisioning | xx-xx-xxxx |
| IAM and Roles Provisioning | xx-xx-xxxx |
| CloudFormation Template for VPC | xx-xx-xxxx |
| CloudFormation Template for Wordpress Stack | xx-xx-xxxx |
| Nested CloudFormation for deploying full stack with multiple AWS services | xx-xx-xxxx |
| | |

# 4 Assumptions

The individuals reading this document are assumed to already have worked as AWS Architect or should have a skill for at least  AWS Solution Architect - Associate level certifications.

**This includes:**

- Should have Knowledge about the AWS Environment
- Should have Knowledge about the Virtualization
- Should have knowledge about the CIDR and subnetting
- Should have knowledge about the Routing Concepts
- Should have knowledge about the Firewall and NACL
- Should have knowledge about the NAT Gateway or NAT servers

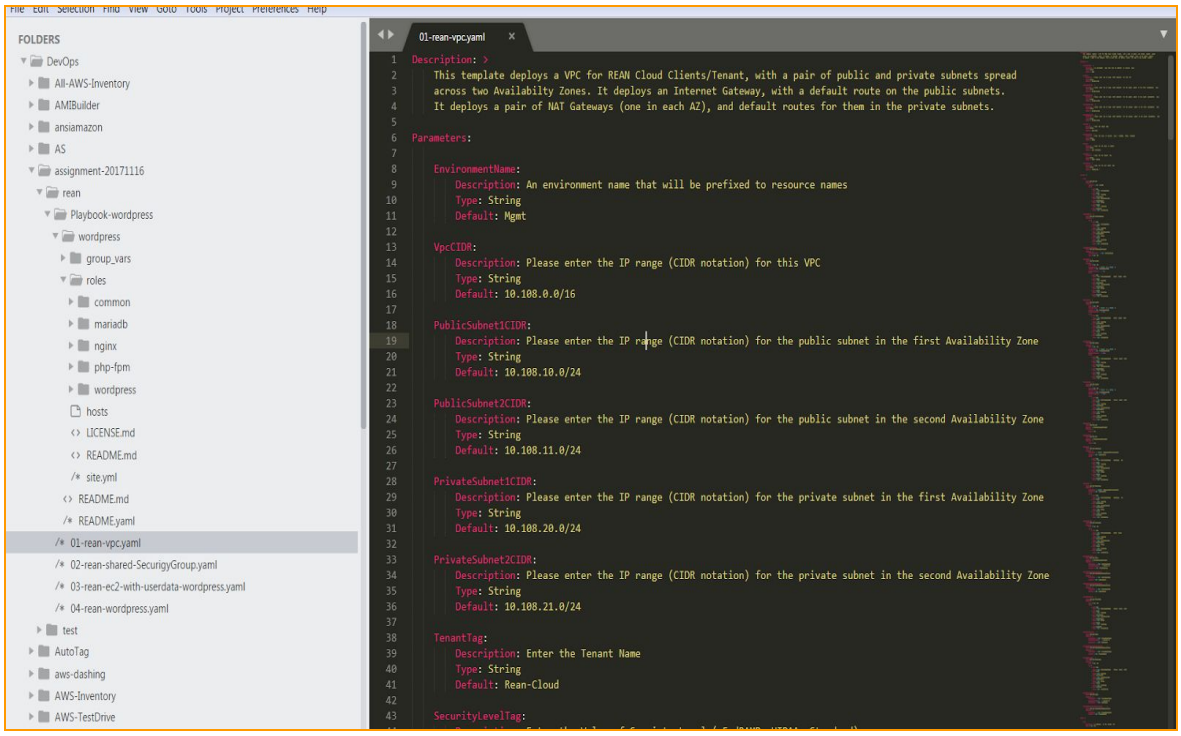
# 5 List of Resources will be created

| Numbers | Resource Name | Description |
|---|---|---|
| 1 | VPC | 10.108.0.0/16 |
| 2 | Public Subnets | 10.108.10.0/24 \| 10.108.11.0/24 |
| 2 | Private Subnets | 10.108.20.0/24 \| 10.108.21.0/24 with NAT Gateway |
| 2 | NAT Gateway | Arbitrary EIP |
| 1 | Public Route Table | To Route Traffic to Public Access |
| 2 | Private Route Table | To Route Traffic within VPC |
| 1 | IGW | To route Traffic to Internet |
| | | |
| | | |
| | | |

# 6 Produrre

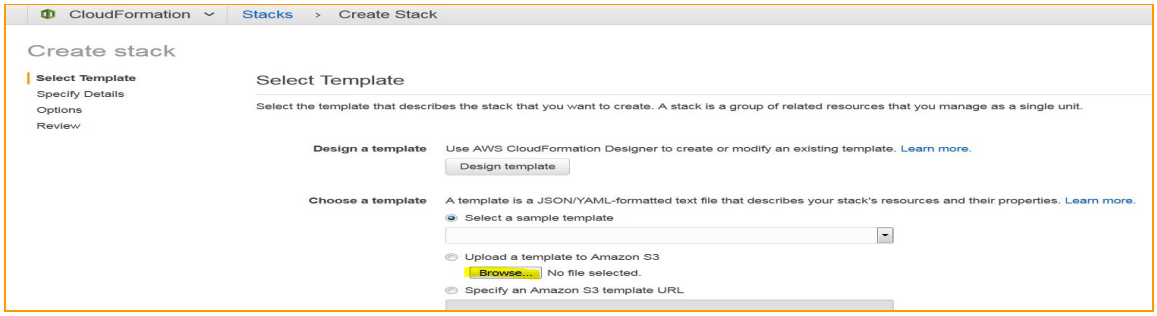
## 6.1 Creating New VPC

1. Download the CloudFormation Templates on your Local Workstation or CM servers from Github or S3. You can make Nested templates and run the all the CloudFormation Templates but here I'm doing 3 different CloudFormation Templates separately.

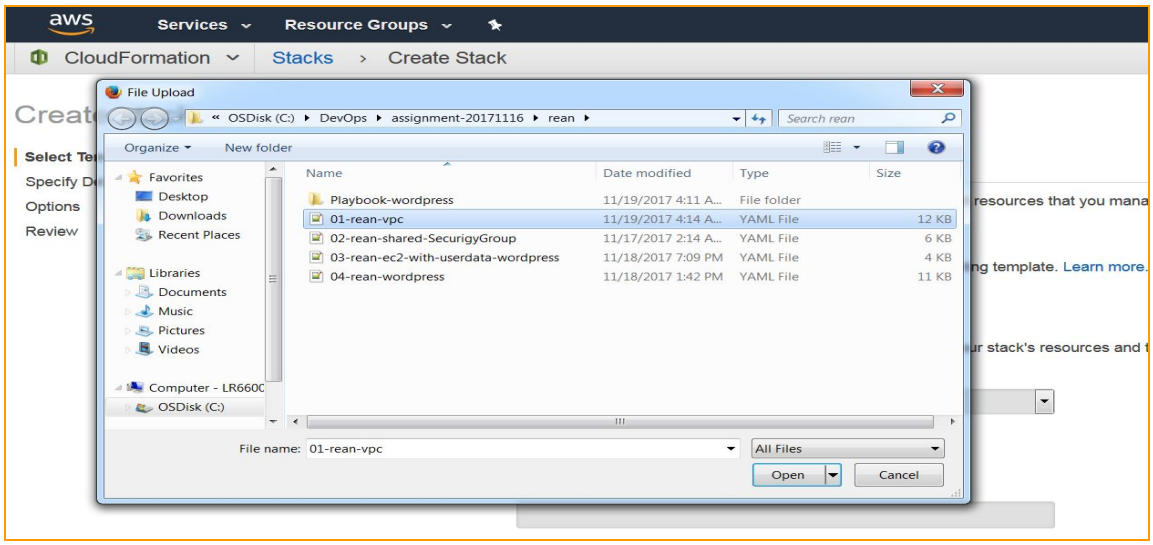



2. Once you download the CloudFormation Template from the S3 or Github, you have multiple choice to run the CloudFormation Templates. By Login into AWS Console using AWS Console user/credentials or you can use AWS CLI or AWS-SDK if you have access and secret key for your users.
3. I'm using AWS Console, because you can see all the parameter which I'm going to pass while I create the Virtual Private Cloud in AWS using CloudFormation Templates to automate the provisioning.
4. All Services > Management Tools > CloudFormation
5. Create Stack

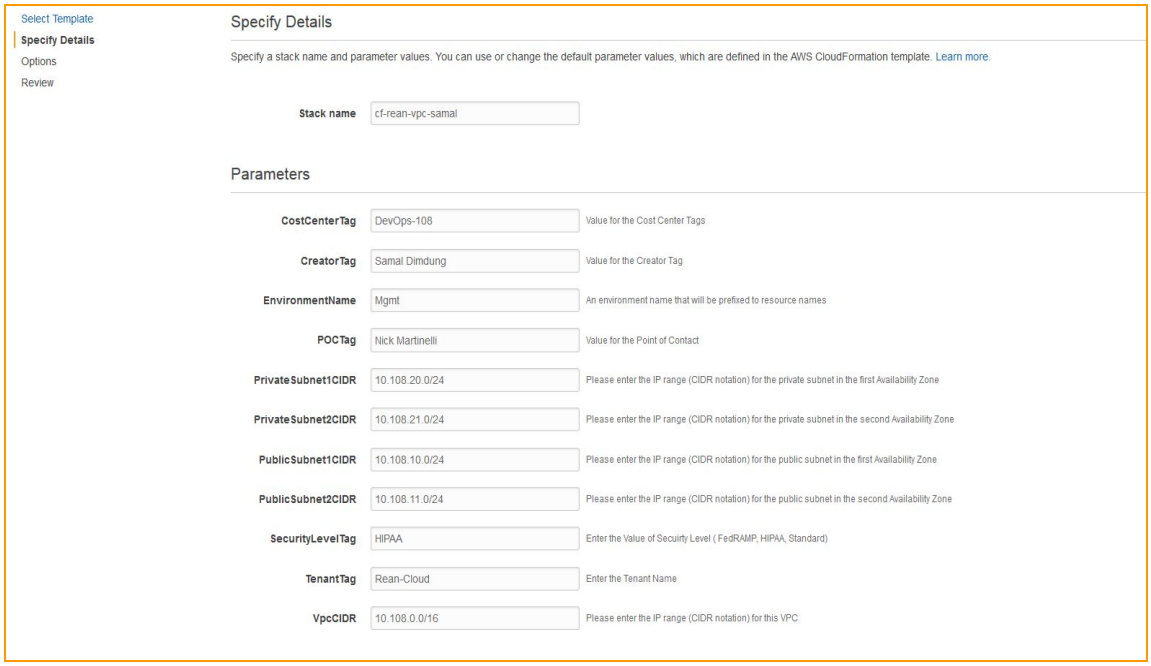
6. Select Template: Browse



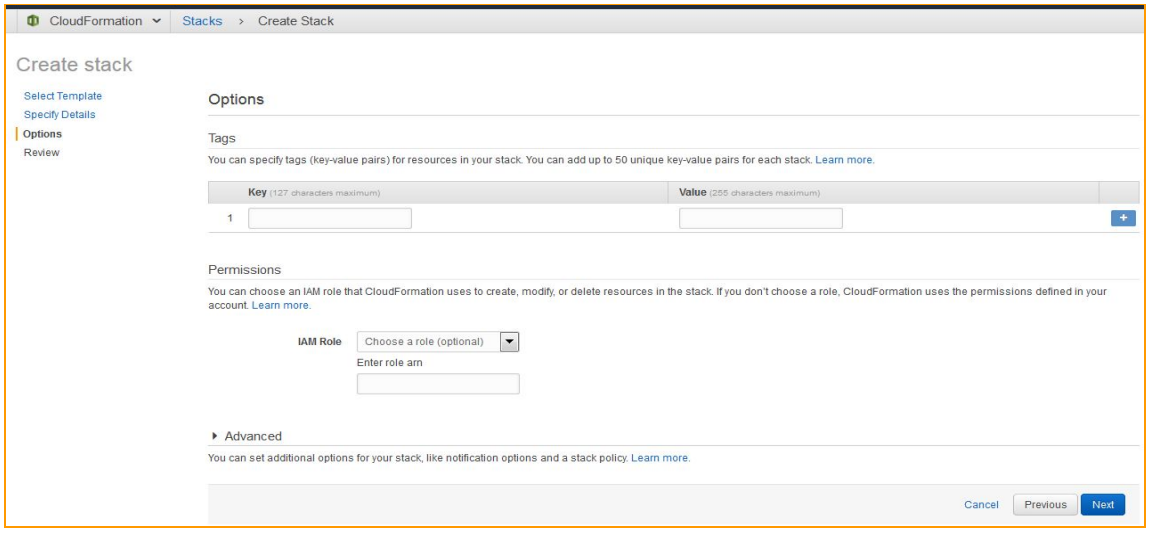

7. Select the CloudFormation Templates files > Open > Next



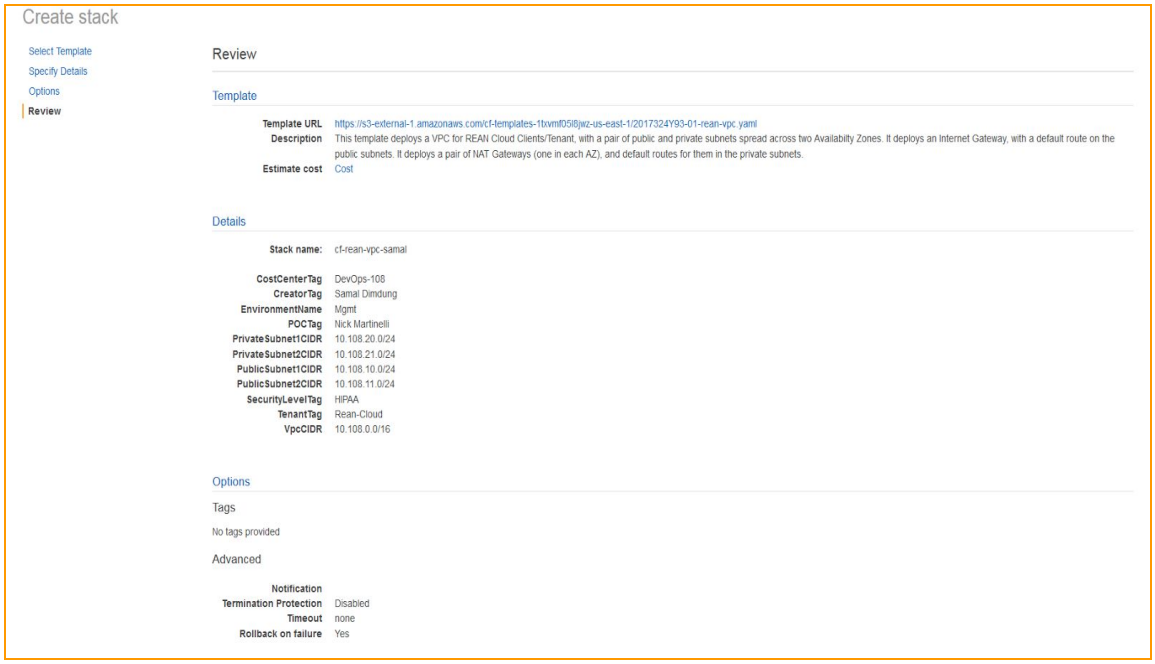

8. Specify Details : Verify the Parameters, if you want to change enter the new values and Next.



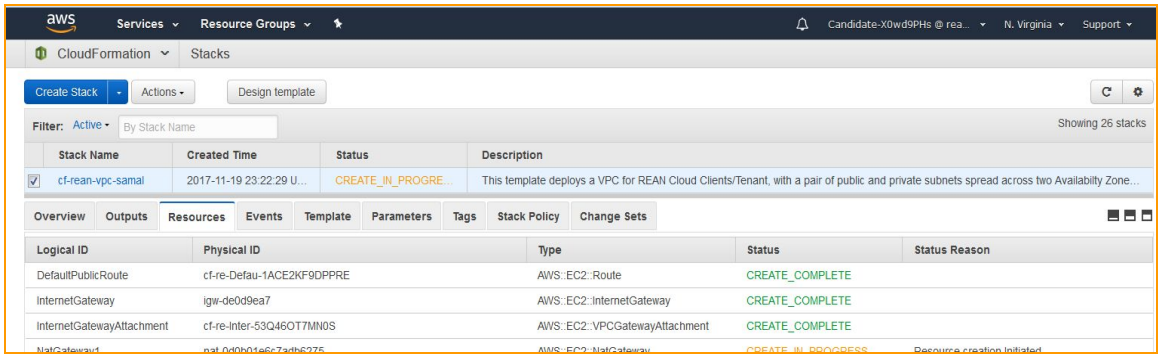
9. Option - Leave Blank and Next



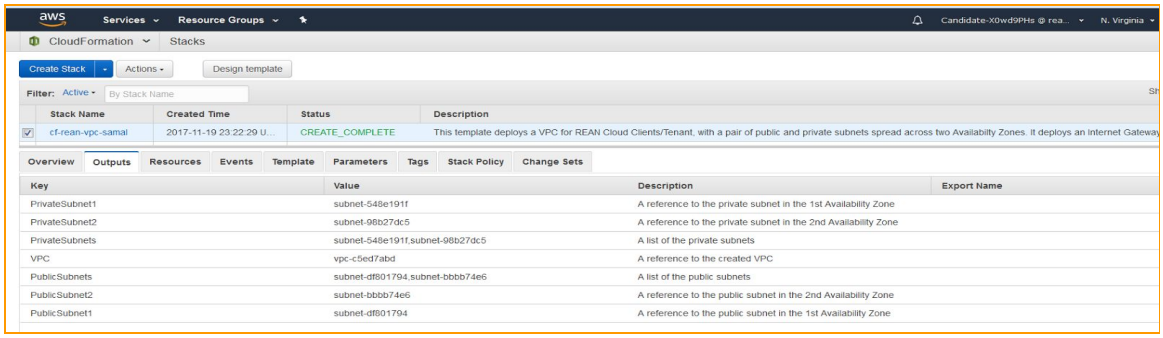

10. Review - Just Click on Create.



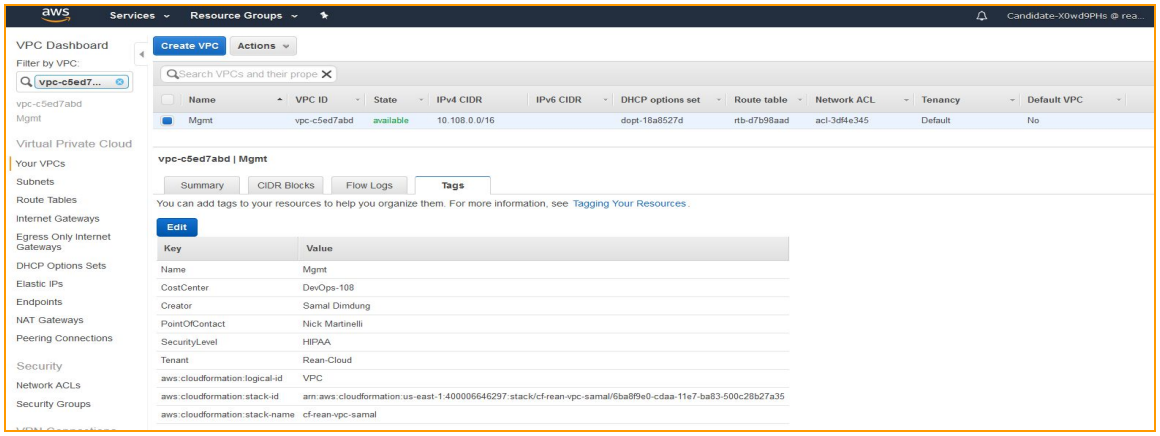

11. VPC creation in progress



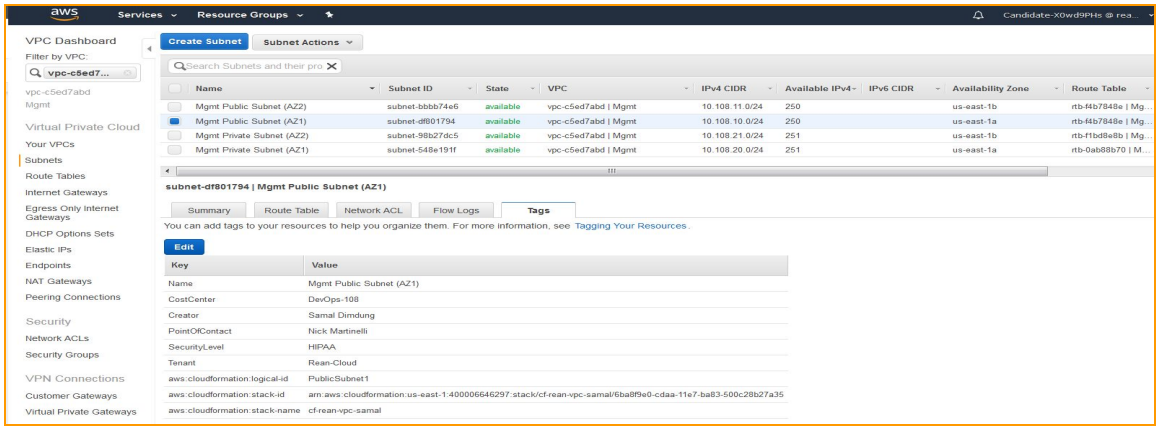
12. Once it complet, you will see below details



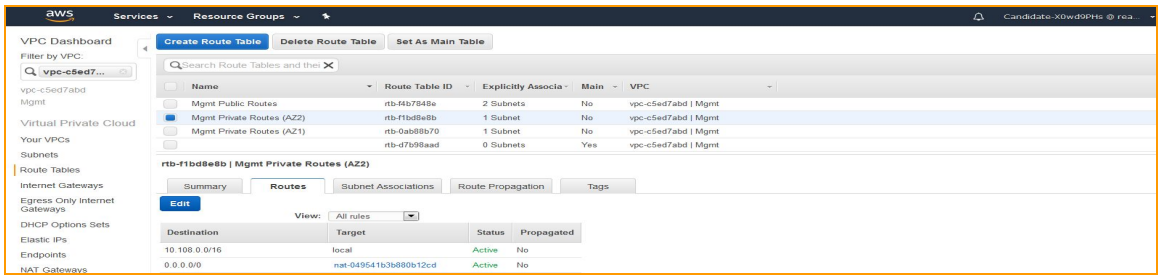

13. VPC named as Mgmt



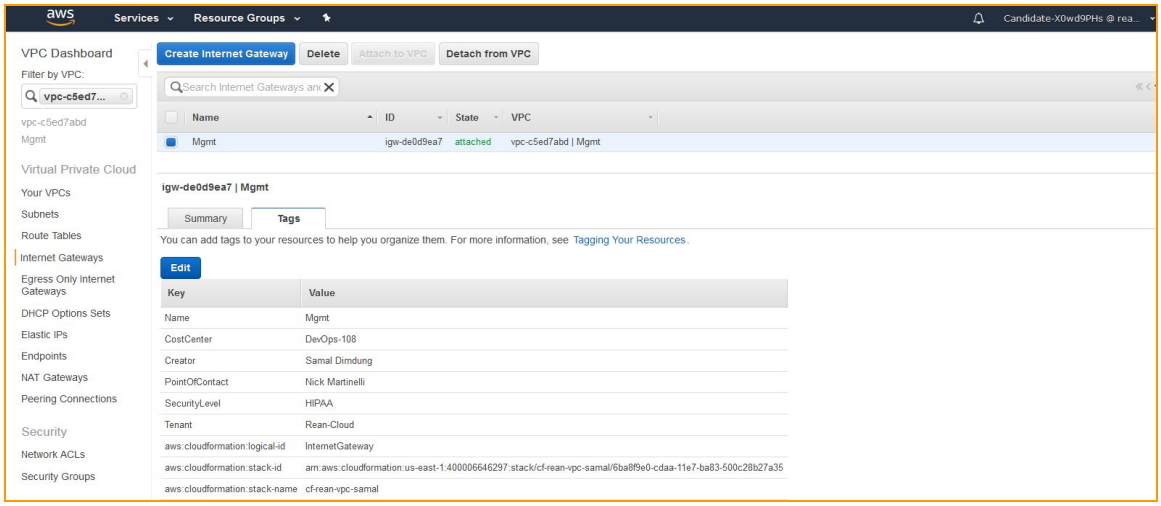

14. Subnets Public and Private, Public both has Internet Gateway attached and private with Nat Gateway.



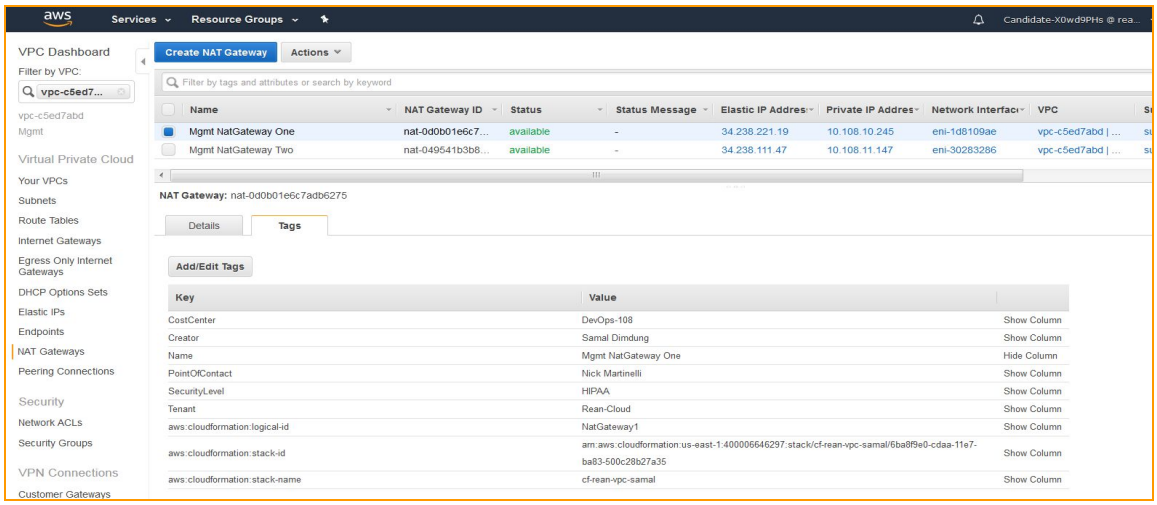

15. Private Subnet with NAT Gateway attached to routing traffic to Internet

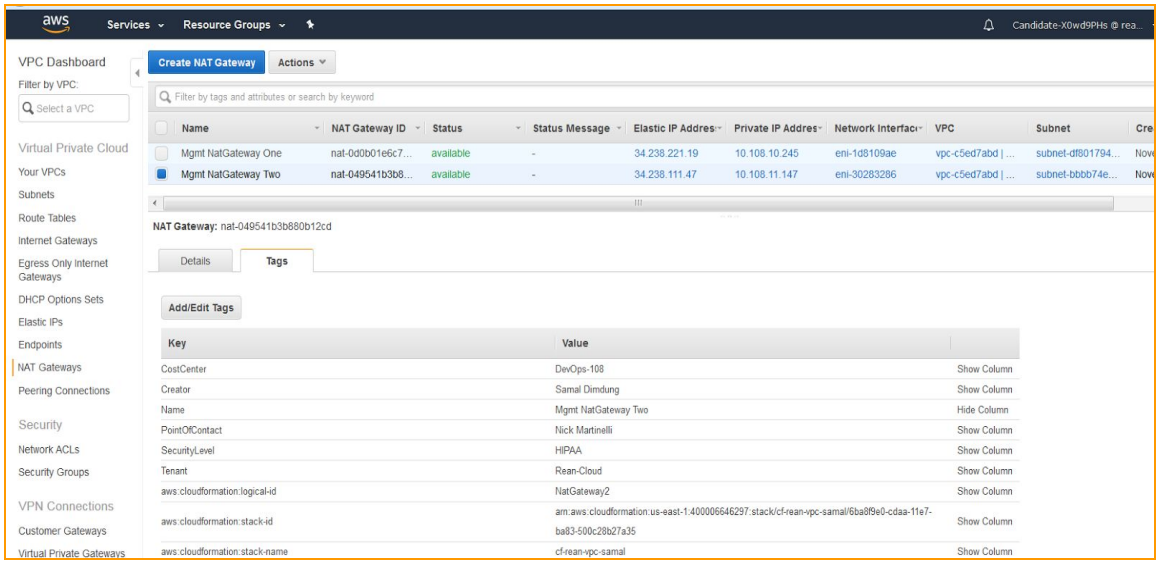


16. IGW with Proper tags




17. Two Nat Gateway for redundancy ..



# 7 VPC Architecture