<p align="center">**LAB – VPC   (Virtual Private Cloud)**</p>

Use case

Client has requested that you build a network in AWS to host a cluster of application server that will be hosted in AWS. You have been provided the below requirements to help a smooth provisioning process.

1. VPC Name: **MyVPC**
   o VPC CIDR: **10.0.0.0/16**
2. Public subnet name: **PublicSubnet-1**
   o Public Subnet CIDR: **10.0.0.0/24**
3. Private subnet name: **PrivateSubnet-1**
   o Private subnet CIDR: **10.0.1.0/24**

Please provision and configure VPC with the above requirements to accommodate our single threaded application that will be hosted on an EC2 instance.

1. Create a vpc (**MyVPC)** with CIDR (network range) **10.0.0.0/16**
   a. VPC default Security Group will be created
      i. Blocks all traffic by deafult
      ii. Sits behind our EC2 instances
   b. Network ACL (Network Access Control List)
      i. Allows all traffic
      ii. Sits behind our Subnets
   c. Default Route table – we use it as our public subnet
2. Create 1 public subnet in AZ 1a
3. Create 1 private subnets in AZ 1b
4. Create an Internet Gateway **MyIGW**
   a. Attach **IGW** to **MyVPC**
5. Create a NAT gateway **MyNATGW**
   a. Associate **MyNATGW** to above public subnet
   b. Always remember we create NAT gateway in Public subnet but associate it with private subnet
   c. Allocate a new Elastic IP Address (Public IP address)
6. Create 1 more Route table which will be configured as private route table
7. Configure Route Table
   a. **PublicRT**
      i. Associate public subnets with the **PublicRT**
      ii. Attach Internet gateway
   b. **PrivateRT**

   i. Associate private subnets with the **PrivateRT**
   ii. Attach NAT gateway

Question:
How do you determine what is a private and public network?
Answer:
a. By associating your private subnet with your private RT
  a. If a route table has internet gateway associated to it, then it is public.
b. By associating your public subnet with your public RT
  a. If a route table has NAT gateway associated to it, then it is private.