Capstone Project Weekly Progress Report

Project Title	Zene Cloud
Group Name	Group-I
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Reporting Week	20 May 2019 – 26 May 2019 (Week 2)
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1. Tasks Outlined in Previous Weekly Progress Report

- Created a VPC (Virtual Private Cloud)
  - ✓ Created Subnets
    - Public Subnets
    - Private Subnets
  - ✓ Configured Route Tables
  - ✓ Attached Internet Gateway
  - ✓ Attached NAT Gateway
  - ✓ Configured Security Groups
- Created EC2 Instance with Userdata / Bootstrapping script

2. Progress Made in Reporting Week

- We have created virtual network environment in which we have assigned IP addresses publicly and privately with CIDR 10.0.0.0/16 and multiple subnets.
- Then, we have created NAT instance of NAT Gateway to access in private Subnet.
- Finally, we have created an EC2 instance using a Userdata/ Bootstrapping script

```
#! /bin/bash
yum update -y
```

```
yum install httpd -y
service httpd start
chkconfig httpd on
```

3. Difficulties Encountered in Reporting Week

- We faced difficulty in selecting the AWS Region for creating our VPC, then we decided to go with Northern Virginia because in Northern Virginia we will get latest and more services than other regions.
- Then we faced a problem regarding subnets for giving address range and also dividing for public and private subnets, we then take help from a specific website (**www.cidr.xyz**) and AWS Documentation (**https://docs.aws.amazon.com/vpc/latest/ userguide / VPC_Subnets .html**).
- After attaching Internet Gateway to our VPC, we faced a problem that both the subnets by default associated with the main route table, that means all subnets that we create were public which can be a security concern.
  - ✓ To overcome that we created a route table and then made that route table public by creating a route out to the internet by allowing all IPs (0.0.0.0/0) to have access to our Internet Gateway.
  - ✓ Which then by default make our main route table private with the private IP address associated with it.
- When we created our first instance in public IP address, it does not associate any IPv4 address to our instance
  - ✓ For an instance to show IPv4 address we had to enable an Auto-assign IPv4 in the settings of the Subnets in VPC.

4. Tasks to Be Completed in Next Week

- We will try to SSH in our Public and Private EC2 instances.
- Create RDS Security Group and RDS Subnet group with Private Subnets.
- Launch RDS instance in Multi - Availability Zone.
- Then we will try to access RDS instance from EC2.