**Domain: Automation and Optimization**

**Topic: Cloudformation**

**Task: Create VPC**

Create a stack using Cloudformation template. The stack should contain at least the following resources:

* VPC with CIDR 10.0.0.0/16
* Three public subnets
* Three private subnets
* NAT Gateway
* Internet Gateway
* Public route table for public subnets with traffic routing via Internet gateway
* Private route table for private subnets with traffic routing via NAT gateway
* Elastic IP attached to NAT gateway

And output exported:

* VPCId
* Public subnets names
* Private subnet names

**Task: Create EC2 Instance**

Create a stack using Cloudformation template. The stack should contain the following resources:

* EC2 instance with httpd server installed
* Security group with SSH traffic allowed
* Elastic IP attached to the instance

Parameters:

* SSH key pair (must be the name of existing keypair)
* Instance type (with allowed values t2.micro, t2.nano, t3.micro, t2.nano)
* AMI Id

Output exported:

* InstanceId
* Availability zone
* Elastic IP associated with the instance

Create a change set with a new rule in security group allowing 80 port from anywhere. Apply the change set, check if webserver works.