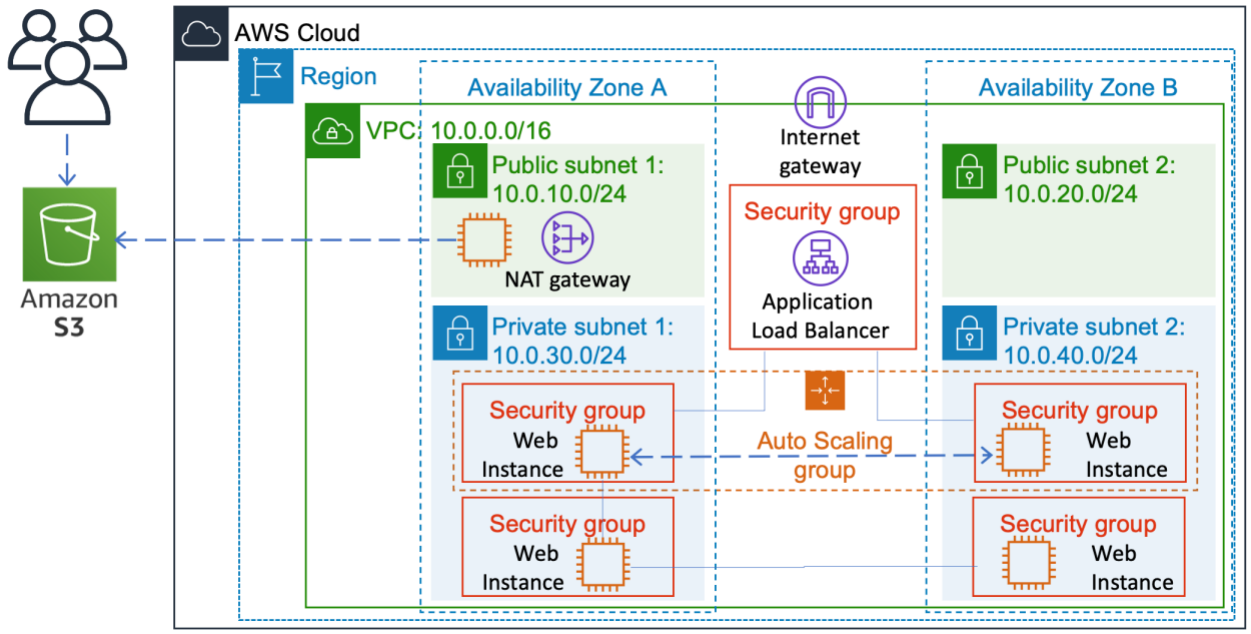
AWS-Final lab design scheme

The current design scheme is a free style lab for your private environment.

You need to deploy your solution based on HA for every service you create for.

Hardening as you can based AWS well architect security pillar.



- Deploy the current lab scheme as follow:
  - Create a VPC for subnetting of **10.0.0.0/16**
    - Create 4 segments as describe by the scheme for 2 AZ
    - Partition your network with public & private subnets
    - Add routing as needed per segment
    - Create Internet gateway & attach to VPC
    - Create NAT gateway for private address segment

  - Deploy the First EC2 instance at the **public** subnet as a Bastion instance for managing all the environment with a dedicated key for accessing remotely.
    - Connect to bastion via SSH or RDP as needed.
    - Create a security group as needed by hardening must as you can.

- Deploy the second EC2 instance as a web server in the **private** subnet
  - Create a security group for the instance
  - Create a template from instance

- Deploy at least 2 web server by the following auto scaling policy:
  - The web server are based web server template
  - Configure the appropriate VPC and the private segments for network deployment
  - Attach the deployment for a new load balancer as follow or create a dedicate application load balancer before :
    - Deploy application load balancer
    - Configure it as internet-facing
    - Appropriate the relevant subnets
    - Create a listener for port 80 & deploy a dedicated target group
    - According to group size configure as follow:
      - Desired capacity :**2**
      - Minimum capacity :**1**
      - Maximum capacity :**4**
    - According to scaling policy configure as follow:
      - Average CPU utilization 30%
      - Use the stress command to achieve scale in & scale out

- You need to summarize 2 services from AWS additional services according to your assignments as follow:
  - 1-2 page for an high level detailed service
  - The summarize services can be with some exam questions

- **Challenge Actions**
  - Create S3 bucket with the following characteristics:
    - Deploy a web server with 2 pages
    - According to security settings, only the **bastion instance** is permitted to upload files to the bucket in order to update the web server.
    - While demonstrating, you must approve the uploading of a file from the bastion instance using the cli command.