Creating a VPC with an Internet Gateway and Route Table

Purpose: This report outlines the steps taken to create a Virtual Private Cloud (VPC) on Amazon Web Services (AWS), configure an Internet Gateway, and associate a Route Table with the VPC. This setup allows instances within the VPC to communicate with the internet.

Steps:

1. **Create VPC:** A VPC named "CafeVPC" was created with a CIDR block of 10.0.0.0/16.
2. **Create Subnet:** A subnet named "CafeSubnet1" was created within the VPC in the `us-east-1a` availability zone with a CIDR block of 10.0.0.0/24.
3. **Create Internet Gateway:** An Internet Gateway was created to enable communication between the VPC and the internet.
4. **Attach Internet Gateway:** The Internet Gateway was attached to the VPC.
5. **Create Route Table:** A Route Table was created for the VPC.
6. **Associate Route Table:** The Route Table was associated with the subnet.
7. **Create Route:** A default route was created in the Route Table, specifying that all traffic should be routed through the Internet Gateway.

Result:

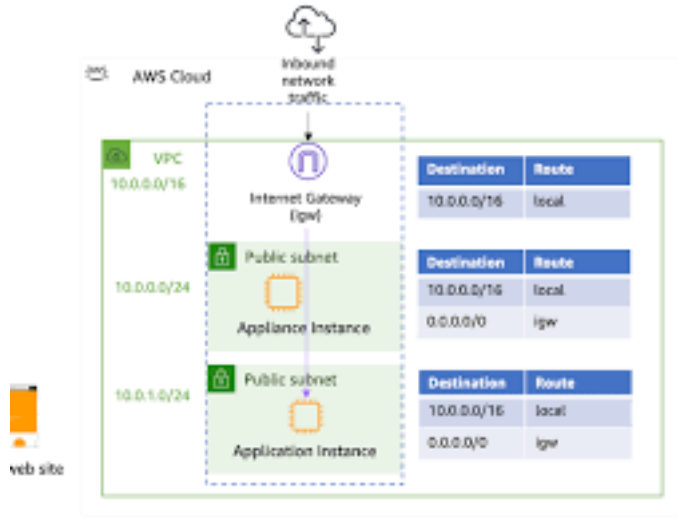
A VPC named "CafeVPC" with a subnet named "CafeSubnet1" was successfully created. An Internet Gateway was attached to the VPC, and a Route Table was associated with the subnet. This configuration allows instances launched within the subnet to communicate with the internet.

Additional Considerations:

- **Security Groups:** To control inbound and outbound traffic to instances within the VPC, security groups should be created and associated with the instances.
- **NAT Gateway:** For private instances that do not require direct internet access, a Network Address Translation (NAT) Gateway can be created to allow outbound traffic.

- **VPN Connections:** To establish secure connections between the VPC and other networks, Virtual Private Network (VPN) connections can be configured.

Diagram:



VPC with an Internet Gateway, Route Table, and Subnet

This report provides a clear overview of the steps involved in creating a basic VPC infrastructure on AWS, including the necessary components for internet connectivity.