**ARCHITECTURE DIAGRAM**

**A diagram of a computer system

Description automatically generated**

**COMPONENT DESCRIPTION**

1. **AWS Account**: Your AWS account is the foundation of your project. It serves as the entry point for accessing and managing various AWS services.
2. **Virtual Network (VPC)**: The Virtual Private Cloud (VPC) is a logically isolated network environment in AWS. It allows you to define and control your virtual network, including IP address ranges, subnets, routing tables, and network gateways.
3. **Subnets**: Subnets are subdivisions of the VPC IP address range. In this assignment, you need to create two subnets: one public and one private. The public subnet is accessible from the internet, while the private subnet is isolated and not directly accessible.
4. **Virtual Machine (VM)**: Virtual Machines, also known as EC2 instances in AWS, are virtual servers that run within the subnets of your VPC. In this assignment, you need to create a VM in one of the subnets and deploy an existing application code onto it.
5. **Network Access Control Lists (NACLs)**: Network Access Control Lists are stateless firewalls that control inbound and outbound traffic at the subnet level. They allow you to define rules to allow or deny traffic based on IP addresses, protocols, and ports.
6. **Security Groups (SGs)**: Security Groups act as virtual firewalls for your EC2 instances. They control inbound and outbound traffic at the instance level. In this assignment, you need to ensure that appropriate security groups are configured for the VM and the RDS database to allow the required communication while maintaining security.
7. **RDS (Relational Database Service)**: RDS is a managed database service provided by AWS. It offers scalable and highly available relational databases. In this assignment, you need to ensure that the code deployed on the VM can communicate with the RDS database securely over a private channel.
8. **Elastic Beanstalk**: Elastic Beanstalk is a fully managed service that simplifies the deployment and management of applications. In this assignment, you need to deploy the same application code to Elastic Beanstalk to leverage its automatic capacity provisioning, load balancing, and scaling capabilities.
9. **Lambda Function**: Lambda is a serverless compute service that allows you to run code without provisioning or managing servers. In this assignment, you need to create a Lambda function that triggers whenever a file is uploaded to the S3 bucket. The function should print the name of the uploaded file.
10. **S3 (Simple Storage Service) Bucket**: S3 is an object storage service provided by AWS. It allows you to store and retrieve any amount of data from anywhere on the web. In this assignment, you need to create an S3 bucket and configure it to trigger the Lambda function upon file uploads.