### AWS WordPress Project:

-Creating a highly available WordPress website on AWS.

### # Problem Statement:

- A customer needs a blog website that she can use to post content, so users can see her work. The customer has some type of technical skills but would love to automate some of the technical tasks. The customer wants a service that can automate all the database tasks, but still want to have some type of control of the computing processes that run her site. More importantly, the customer wants the website to be inside a virtual private network for security reasons.

### # Solution Statement:

- I advise the customer to go with Amazon AWS for hosting her website because AWS has a centralized system in terms of managing resources and services. She can benefit from it and AWS can also make her website highly available so users can access her website.

### # AWS Services for the website:

- AWS Cloud platform: to host and manage the website.
- WordPress: to build the blog website.
- VPC: for the networking setting.
- RDS: to automate the database tasks.
- EC2: for the computing processes of the website and still give her the option to change it later on.
- -MySQL: to store the website information.
- -Security Group: to secure her AWS resources.
- -Keypairs: to access the EC2 through an ssh command line.
- -Let's login into our AWS account. I am going to use my IAM user to access my AWS account because it's best practice to use an IAM user who has administration privilege to access the account instead the root user.
- -Let's create a highly available WordPress website:

I am creating the project in the N. Virginia (us-east-1) region because that is where the customer wanted the site to be hosted it. The goal is to create all the resources outside of global resources in this region because it's easy for the customer to manage all her resources.

## ### VPC Network Design:

-VPC IP Range: 172.20.0.0/16

4 subnets: 2 public subnets, 2 private subnets

2 zones: us-east-1a and us-east-1b

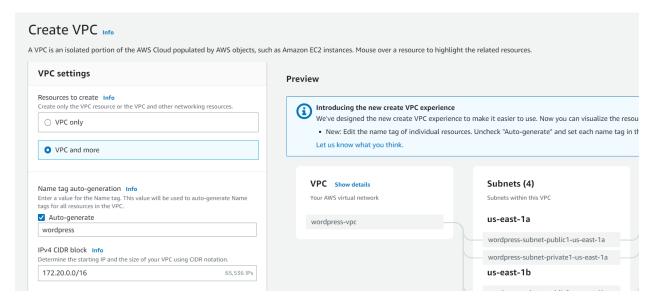
172.20.1.0/24 public-sub 1:us-east-1a

172.20.2.0/24 public-sub 2:us-east-1b

172.20.3.0/24 private-sub 1:us-east-1a

172.20.4.0/24 private-sub 2:us-east-1b

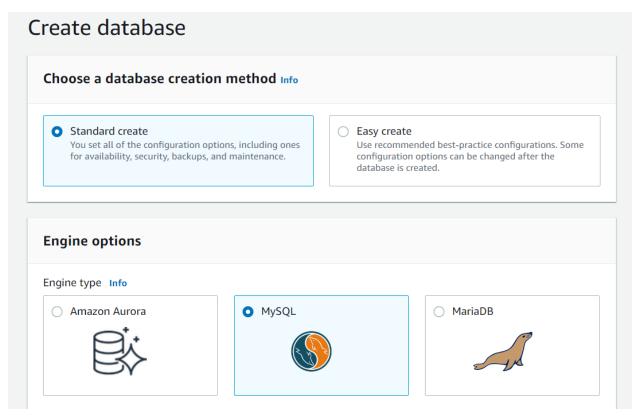
# # Creating a VPC for the website



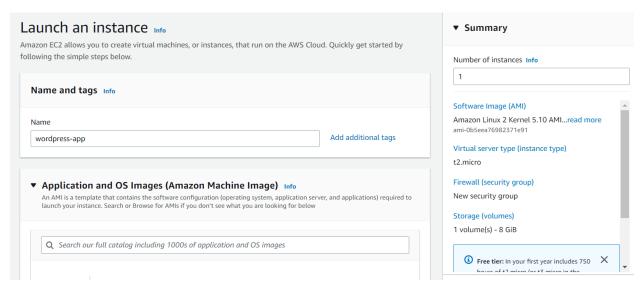
# creating a DB subnet for the database

# Create DB subnet group To create a new subnet group, give it a name and a description, and choose an existing VPC. You will then be able to add subnets related to that VPC. Subnet group details Name You won't be able to modify the name after your subnet group has been created. wordpress-subnet Must contain from 1 to 255 characters. Alphanumeric characters, spaces, hyphens, underscores, and periods are allowed. Description wordpress-subnet VPC Choose a VPC identifier that corresponds to the subnets you want to use for your DB subnet group. You won't be able to choose a different VPC identifier after your subnet group has been created. wordpress-vpc (vpc-02853dee79ba1da57)

# Creating RDS service with mySQL database for information storage:



# # Launching an EC2 for the website



# # Connecting into the EC2 instance

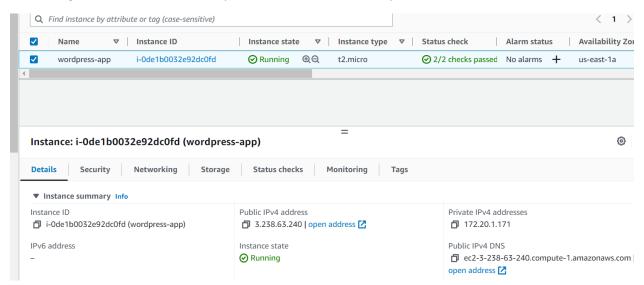
```
移 ec2-user@ip-172-20-1-171:~
                                                                                                                                    EC2 Ex
                                                                                                                                                        Co
andre@DESKTOP-FTEJMFO MINGW64 ~/Downloads

$ ssh -i "wordpress-key.pem" ec2-user@ec2-3-238-63-240.compute-1.amazonaws.com
The authenticity of host 'ec2-3-238-63-240.compute-1.amazonaws.com (3.238.63.240
hboarED25519 key fingerprint is SHA256:w7VX7d+r+CRYg5CgUTStPwu+aLTaR/tiSACEYefH4AA.
                                                                                                                                                         In
       This host key is known by the following other names/addresses:
oal Vi
               ~/.ssh/known_hosts:14: 3.238.63.240
                                                                                                                                                         t2
        Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'ec2-3-238-63-240.compute-1.amazonaws.com' (ED25519)
                                                                                                                                                         t2
                                            Amazon Linux 2 AMI
        https://aws.amazon.com/amazon-linux-2/
S
         [ec2-user@ip-172-20-1-171 ~]$
15
 Type
                                                                                                                                                      Moni
```

# Making sure that the httpd webserver is running on the instance

```
root@ip-172-20-1-171:~
                                                                                              RI[root@ip-172-20-1-171 ~]# service httpd start
  Redirecting to /bin/systemctl start httpd.service
  [root@ip-172-20-1-171 ~]# systemctl status httpd
     httpd.service - The Apache HTTP Server
Loaded: loaded (/usr/lib/systemd/system/httpd.service; disabled; vendor prese
                                                                                                            onfigur
      Active: active (running) since Wed 2023-01-18 00:19:52 UTC; 19s ago
         Docs: man:httpd.service(8)
    Main PID: 3634 (httpd)
                "Total requests: 0; Idle/Busy workers 100/0; Requests/sec: 0; Bytes se
      Status:
      CGroup: /system.slice/httpd.service
e i
                   -3634 /usr/sbin/httpd -DFOREGROUND
                  -3635 /usr/sbin/httpd -DFOREGROUND
                  -3636 /usr/sbin/httpd -DFOREGROUND
-3637 /usr/sbin/httpd -DFOREGROUND
-3638 /usr/sbin/httpd -DFOREGROUND
m
                 —3639 /usr/sbin/httpd -DFOREGROUND
Jan 18 00:19:52 ip-172-20-1-171.ec2.internal systemd[1]: Starting The Apache HTT Jan 18 00:19:52 ip-172-20-1-171.ec2.internal systemd[1]: Started The Apache HTTP
  [root@ip-172-20-1-171 ~]#
ıps
```

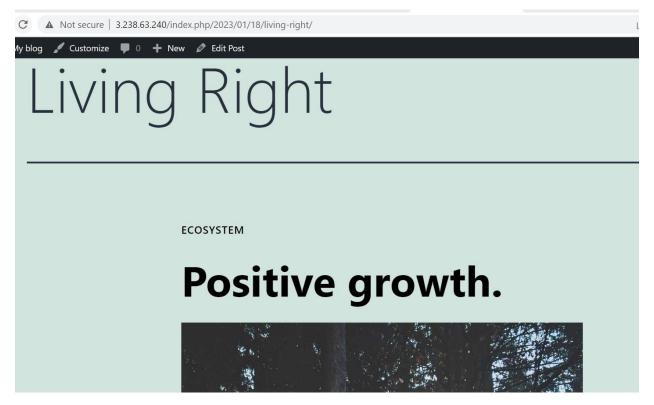
# # Checking the EC2 instance for the public IP to access the wordpress website





Welcome	
Welcome to the famous five-minute WordPress installation process! Just fill in the information below and you'll be on your way to using the most extendable and powerful personal publishing platform in the world.	
Information needed	
Please provide the following information. Do not worry, you can always change these settings later.	
Site Title	
Username	
	Usernames can have only alphanumeric characters, spaces, underscores, hyphens, periods, and the @ symbol.

# Accessing a page from the blog



# After creating the website domain name with Godaddy, I used Route 53 to manage the DNS records and to check the health of the website.