

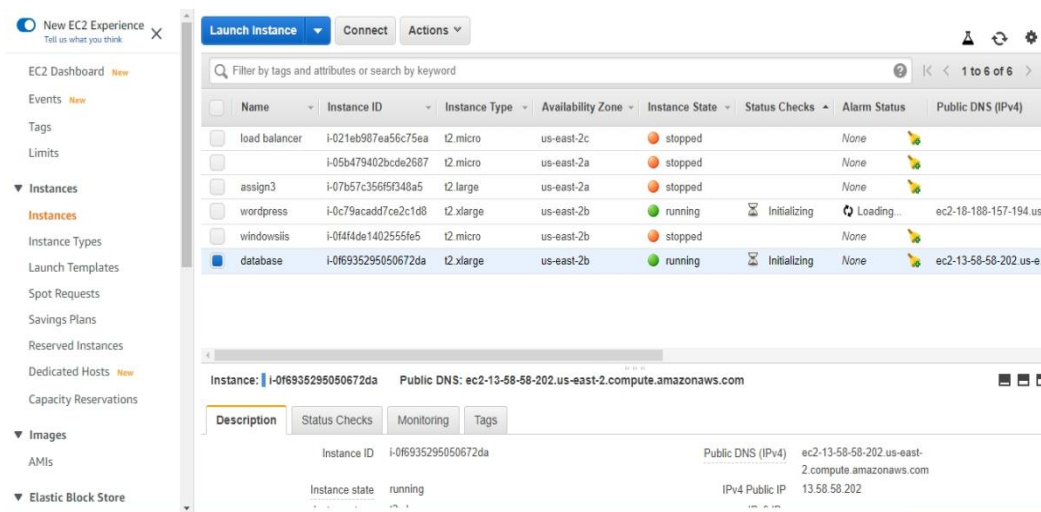
# Assignment: 2 Tier Application on AWS

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Task: Launch 1 EC2 Linux instance and configure MySQL/Mariadb server on it (use your choice for password and user names). Launch 1 EC2 Linux instance and configure Word press Application server on it; Use previously configured MySQL or Mariadb database server for connection with private IP address of instances.

## STEPS:

1. Launch Two Ec2 instance with Ubuntu AMI and named them As Shown In Picture i.e. wordpress, database with t2.xlarge as instance Type.



2. Select the first EC2 instance(wordpress) for downloading and installing wordpress application

```
root@ip-172-31-24-12 ~
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  libapache2-mod-php7.2 libapache2-mod-php7.4 libpcre3 php7.2-cgi php7.2-common php7.2-json php7.2-opcache php7.2-readline php7.4-cgi php7.4-common php7.4-json
  php7.4-mysql php7.4-opcache php7.4-readline
Suggested packages:
  php-pear
The following NEW packages will be installed:
  libapache2-mod-php7.2 php7.2 php7.2-cgi php7.2-common php7.2-json php7.2-opcache php7.2-readline
The following packages will be upgraded:
  libapache2-mod-php7.4 libpcre3 php7.4-cgi php7.4-common php7.4-json php7.4-mysql php7.4-opcache php7.4-readline
8 upgraded, 7 newly installed, 0 to remove and 61 not upgraded.
Need to get 8303 kB of archives.
After this operation, 17.3 MB of additional disk space will be used.
Get:1 http://ppa.launchpad.net/ondrej/php/ubuntu focal/main amd64 libpcre3 amd64 2:8.44-1+ubuntu20.04.1+deb.sury.org+1 [240 kB]
Get:2 http://ppa.launchpad.net/ondrej/php/ubuntu focal/main amd64 libpcre3 amd64 2:8.44-1+ubuntu20.04.1+deb.sury.org+1 [240 kB]
Get:3 http://ppa.launchpad.net/ondrej/php/ubuntu focal/main amd64 php7.4-readline amd64 7.4.8-1+ubuntu20.04.1+deb.sury.org+3 [12.6 kB]
Get:4 http://ppa.launchpad.net/ondrej/php/ubuntu focal/main amd64 php7.4-opcache amd64 7.4.8-1+ubuntu20.04.1+deb.sury.org+3 [159 kB]
Get:5 http://ppa.launchpad.net/ondrej/php/ubuntu focal/main amd64 php7.4-mysql amd64 7.4.8-1+ubuntu20.04.1+deb.sury.org+3 [121 kB]
Get:6 http://ppa.launchpad.net/ondrej/php/ubuntu focal/main amd64 php7.4-cgi amd64 7.4.8-1+ubuntu20.04.1+deb.sury.org+3 [119.2 kB]
Get:7 http://ppa.launchpad.net/ondrej/php/ubuntu focal/main amd64 libapache2-mod-php7.4 amd64 7.4.8-1+ubuntu20.04.1+deb.sury.org+3 [1365 kB]
Get:8 http://ppa.launchpad.net/ondrej/php/ubuntu focal/main amd64 php7.4-cgi amd64 7.4.8-1+ubuntu20.04.1+deb.sury.org+3 [1423 kB]
Get:9 http://ppa.launchpad.net/ondrej/php/ubuntu focal/main amd64 php7.4-common amd64 7.4.8-1+ubuntu20.04.1+deb.sury.org+3 [522 kB]
Get:10 http://ppa.launchpad.net/ondrej/php/ubuntu focal/main amd64 php7.2-common amd64 7.2.32-1+ubuntu20.04.1+deb.sury.org+1 [335 kB]
Get:11 http://ppa.launchpad.net/ondrej/php/ubuntu focal/main amd64 php7.2-json amd64 7.2.32-1+ubuntu20.04.1+deb.sury.org+1 [19.2 kB]
Get:12 http://ppa.launchpad.net/ondrej/php/ubuntu focal/main amd64 php7.2-opcache amd64 7.2.32-1+ubuntu20.04.1+deb.sury.org+1 [166 kB]
Get:13 http://ppa.launchpad.net/ondrej/php/ubuntu focal/main amd64 php7.2-readline amd64 7.2.32-1+ubuntu20.04.1+deb.sury.org+1 [12.4 kB]
Get:14 http://ppa.launchpad.net/ondrej/php/ubuntu focal/main amd64 libapache2-mod-php7.2 amd64 7.2.32-1+ubuntu20.04.1+deb.sury.org+1 [1380 kB]
Get:15 http://ppa.launchpad.net/ondrej/php/ubuntu focal/main amd64 php7.2 all 7.2.32-1+ubuntu20.04.1+deb.sury.org+1 [54.1 kB]
Fetched 8303 kB in 17s (486 kB/s)
(Reading database ... 61061 files and directories currently installed.)
Preparing to unpack .../libpcre3_2:8.44-1+ubuntu20.04.1+deb.sury.org+1_amd64.deb ...
Unpacking libpcre3:amd64 (2:8.44-1+ubuntu20.04.1+deb.sury.org+1) over (2:8.39-12build1) ...
Setting up libpcre3:amd64 (2:8.44-1+ubuntu20.04.1+deb.sury.org+1) ...
(Reading database ... 61061 files and directories currently installed.)
Preparing to unpack .../00-php7.4-readline_7.4.8-1+ubuntu20.04.1+deb.sury.org+3_amd64.deb ...
Unpacking php7.4-readline (7.4.8-1+ubuntu20.04.1+deb.sury.org+3) over (7.4.3-4ubuntu2.2) ...
Preparing to unpack .../01-php7.4-opcache_7.4.8-1+ubuntu20.04.1+deb.sury.org+3_amd64.deb ...
Unpacking php7.4-opcache (7.4.8-1+ubuntu20.04.1+deb.sury.org+3) over (7.4.3-4ubuntu2.2) ...
Preparing to unpack .../02-php7.4-mysql_7.4.8-1+ubuntu20.04.1+deb.sury.org+3_amd64.deb ...
```

Do the following steps for installing wordpress:

- sudo -i
- yum update -y
- sudo yum install -y httpd
- sudo amazon-linux-extras install -y php7.2
- yum install wget -y
- wget http://repo.mysql.com/mysql-community-release-el6-5.noarch.rpm
- rpm -ivh mysql-community-release-el6-5.noarch.rpm
- yum install mysql-server -y
- yum install php-mysqldb -y
- cd /var/www/html
- echo "healthy" > healthy.html
- wget https://wordpress.org/latest.tar.gz
- tar -xzf latest.tar.gz
- cp -r wordpress/\* /var/www/html/
- rm -rfwordpress
- rm -rf latest.tar.gz
- chmod -R 755 wp-content
- chown -R apache:apachewp-content
- chkconfighttpd on
- service httpd start

Or otherwise You can Put Directly In Step 3 i.e configure instance Details While Launching wordpress Ec2 Instance in user data

### 3. Use another instance for configuring the database i.e. MySQL

```
root@ip-172-31-24-105: ~
Reload privilege tables now? (Press y|Y for Yes, any other key for No) : y
Success.

All done!
root@ip-172-31-24-105:~# mysql -u root -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 11
Server version: 8.0.20-0ubuntu0.20.04.1 (Ubuntu)

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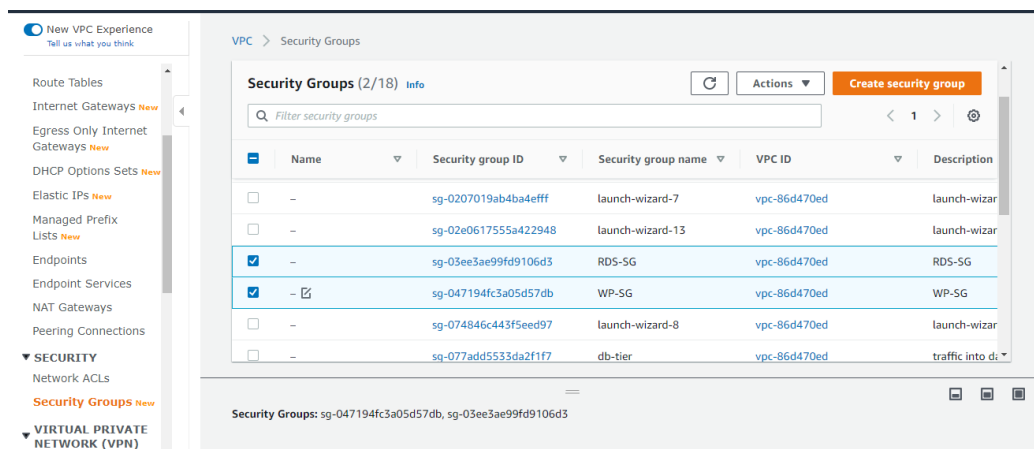
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Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> show databases;
+-----+
| Database |
+-----+
| information_schema |
| mysql |
| performance_schema |
| sys |
| wordpress |
+-----+
5 rows in set (0.00 sec)

mysql>
```

4. Connect these two instance by private IP, create two security group and add inbound and outbound rule i.e. for wordpress[http,ssh] and for database [mysql/arora] and access it by public IP.



Security Groups > Edit inbound rules

## Edit inbound rules

Inbound rules control the incoming traffic that's allowed to reach the instance.

Type	Protocol	Port Range	Source	Description
HTTP	TCP	80	Custom	0.0.0.0/0, ::/0
SSH	TCP	22	My IP	124.40.245.74/32

Add Rule

NOTE: Any edits made on existing rules will result in the edited rule being deleted and a new rule created with the new details. This will cause traffic that depends on that rule to be dropped for a very brief period of time until the new rule can be created.

Security Groups > Edit inbound rules

## Edit inbound rules

Inbound rules control the incoming traffic that's allowed to reach the instance.

Type	Protocol	Port Range	Source	Description
MYSQL/Aurora	TCP	3306	Custom	sg-0bd20202669f65280

Add Rule

NOTE: Any edits made on existing rules will result in the edited rule being deleted and a new rule created with the new details. This will cause traffic that depends on that rule to be dropped for a very brief period of time until the new rule can be created.

5. Copy the Public internet protocol of that Ec2 instance which consist of wordpress application, now our wordpress ready to access , do the General step & access your dashboard of wordpress.

