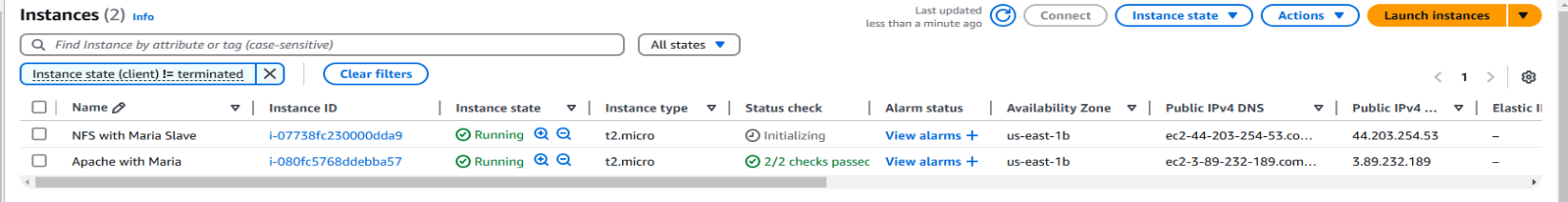
**AWS-Based Multi-Server Architecture Implementation**

Name – Rohit Agarwal

Batch – TR3

**Instances**

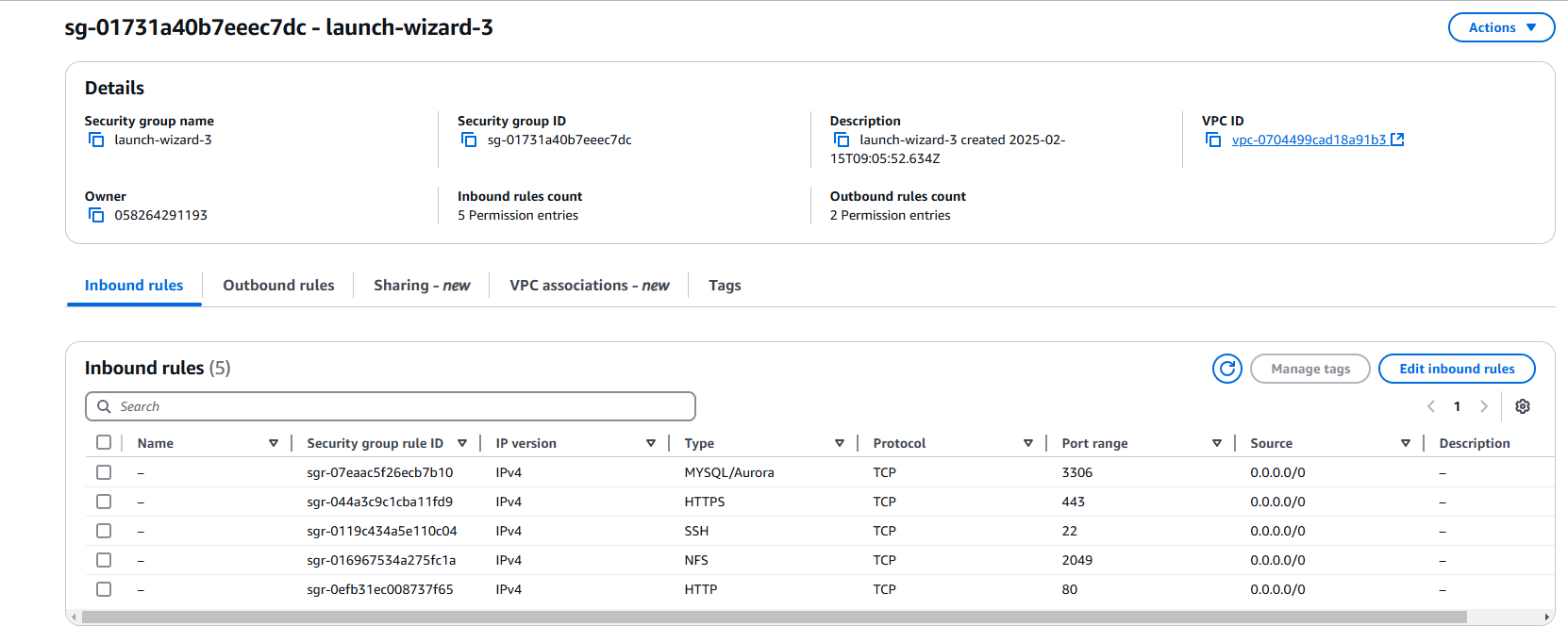
1. **Instance 1 (44.203.254.53)** - NFS Server & MariaDB Slave
2. **Instance 2 (3.89.232.189)** - Web Server & MariaDB Slave



**AWS Infrastructure**

### ****1. Security Group****

* Allow SSH (22).
* Allow HTTP (80) & HTTPS (443)
* Allow MySQL (3306)
* Allow NFS (2049)



**Implementation Steps**

**Configure Instance 1 (NFS + MariaDB Slave)**

**1. Setup NFS Server**

sudo apt update && sudo apt install -y nfs-kernel-server

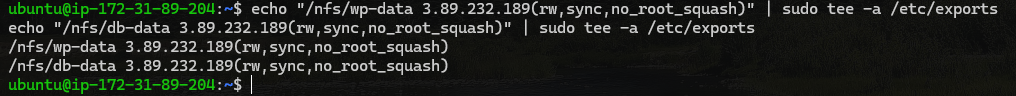
sudo mkdir -p /nfs/wp-data /nfs/db-data

sudo chown -R nobody:nogroup /nfs/wp-data /nfs/db-data

Configure exports:

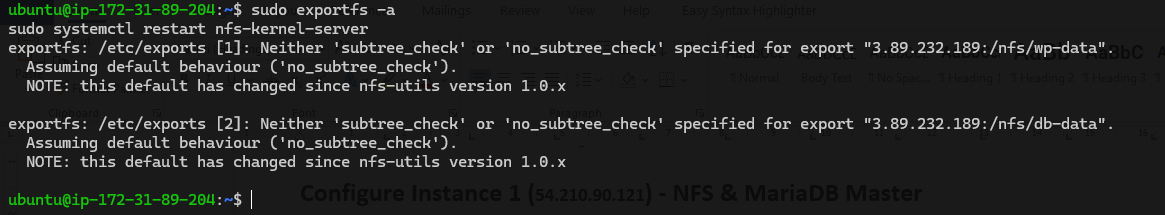
echo "/nfs/wp-data 3.89.232.189(rw,sync,no\_root\_squash)" | sudo tee -a /etc/exports

echo "/nfs/db-data 3.89.232.189(rw,sync,no\_root\_squash)" | sudo tee -a /etc/exports



sudo exportfs -a

sudo systemctl restart nfs-kernel-server



**2. Setup MariaDB Slave**

sudo apt install -y mariadb-server

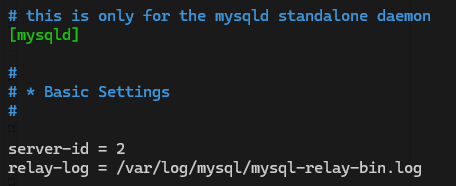
sudo nano /etc/mysql/mariadb.conf.d/50-server.cnf

Modify configuration:

[mysqld]

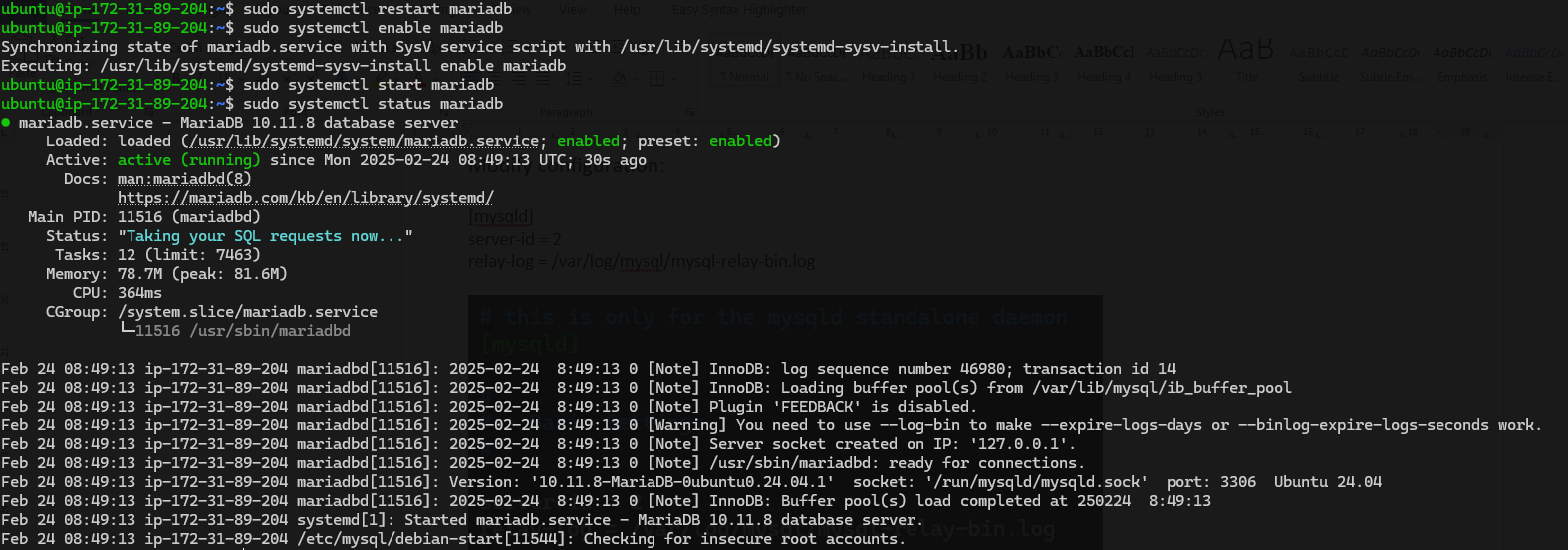
server-id = 2

relay-log = /var/log/mysql/mysql-relay-bin.log



Restart MariaDB:

sudo systemctl restart mariadb



Connect to MariaDB and start replication:

CHANGE MASTER TO MASTER\_HOST='3.89.232.189',

MASTER\_USER='replica',

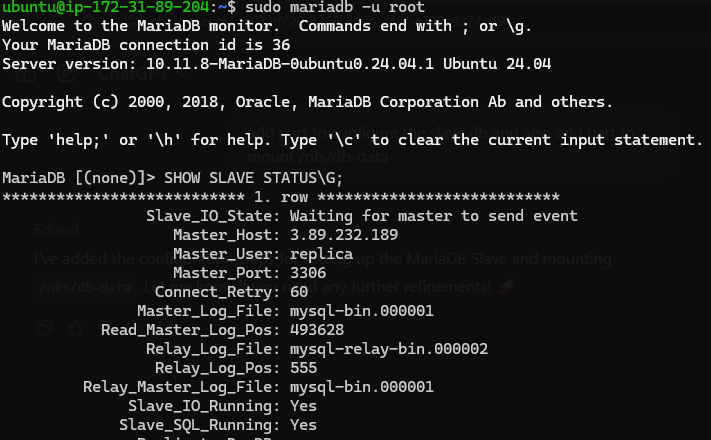
MASTER\_PASSWORD='replica\_password',

MASTER\_LOG\_FILE='mysql-bin.000001', -- Use actual File value

MASTER\_LOG\_POS=154; -- Use actual Position value

START SLAVE;

SHOW SLAVE STATUS\G;



**Step 3: Configure Instance 2 (Apache + MariaDB Master)**

**1. Setup Web Server**

sudo apt update && sudo apt install -y apache2 php php-mysql nfs-common

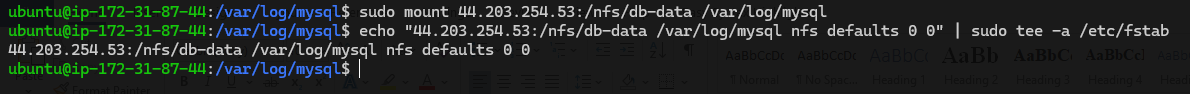
sudo mount 44.203.254.53:/nfs/wp-data /var/www/html

echo "44.203.254.53:/nfs/wp-data /var/www/html nfs defaults 0 0" | sudo tee -a /etc/fstab



sudo mount 44.203.254.53:/nfs/db-data /var/log/mysql

echo "44.203.254.53:/nfs/db-data /var/log/mysql nfs defaults 0 0" | sudo tee -a /etc/fstab



**2. Setup MariaDB Master**

sudo apt install -y mariadb-server

sudo nano /etc/mysql/mariadb.conf.d/50-server.cnf

Modify configuration:

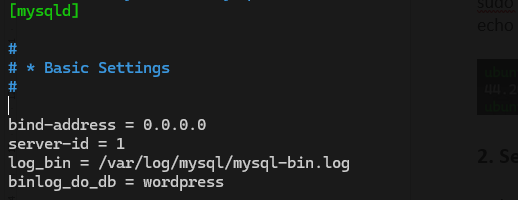
[mysqld]

bind-address = 0.0.0.0

server-id = 1

log\_bin = /var/log/mysql/mysql-bin.log

binlog\_do\_db = wordpress



Restart MariaDB:

sudo systemctl restart mariadb

Create database and user:

CREATE DATABASE wordpress;

CREATE USER 'wpuser'@'%' IDENTIFIED BY 'wordpress’;

GRANT ALL PRIVILEGES ON wordpress.\* TO 'wpuser'@'%';

FLUSH PRIVILEGES;

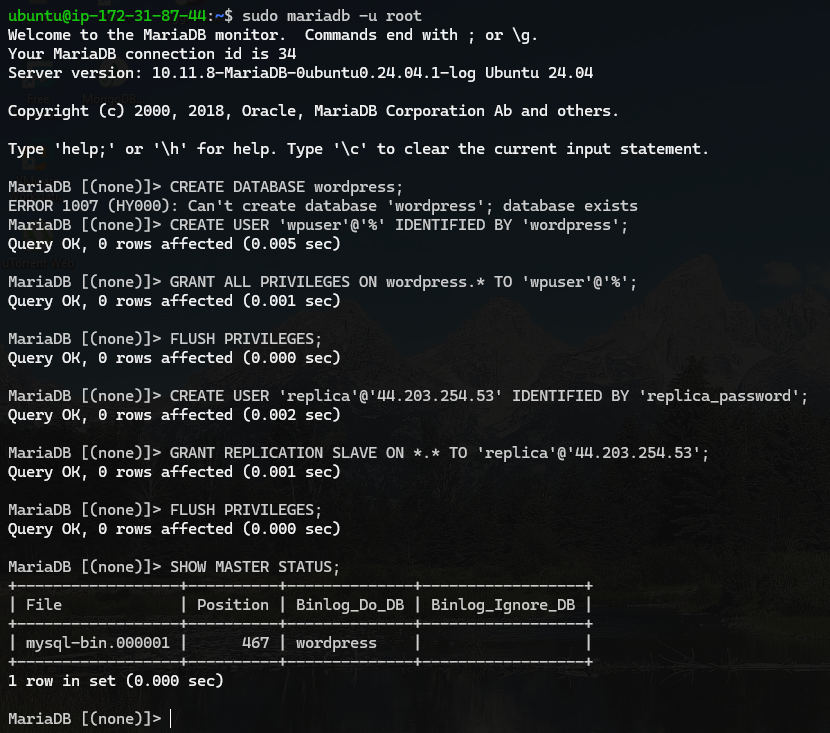
Enable replication:

CREATE USER 'replica'@'44.203.254.53' IDENTIFIED BY 'replica\_password';

GRANT REPLICATION SLAVE ON \*.\* TO 'replica'@'44.203.254.53';

FLUSH PRIVILEGES;

SHOW MASTER STATUS;



**Step 4: Configure WordPress**

cd /var/www/html

sudo wget https://wordpress.org/latest.tar.gz

sudo tar -xzf latest.tar.gz

sudo mv wordpress/\* .

sudo rm -rf wordpress latest.tar.gz

sudo chown -R www-data:www-data /var/www/html

sudo chmod -R 755 /var/www/html

Edit wp-config.php:

sudo nano /var/www/html/wp-config.php

Modify:

define('DB\_NAME', 'wordpress');

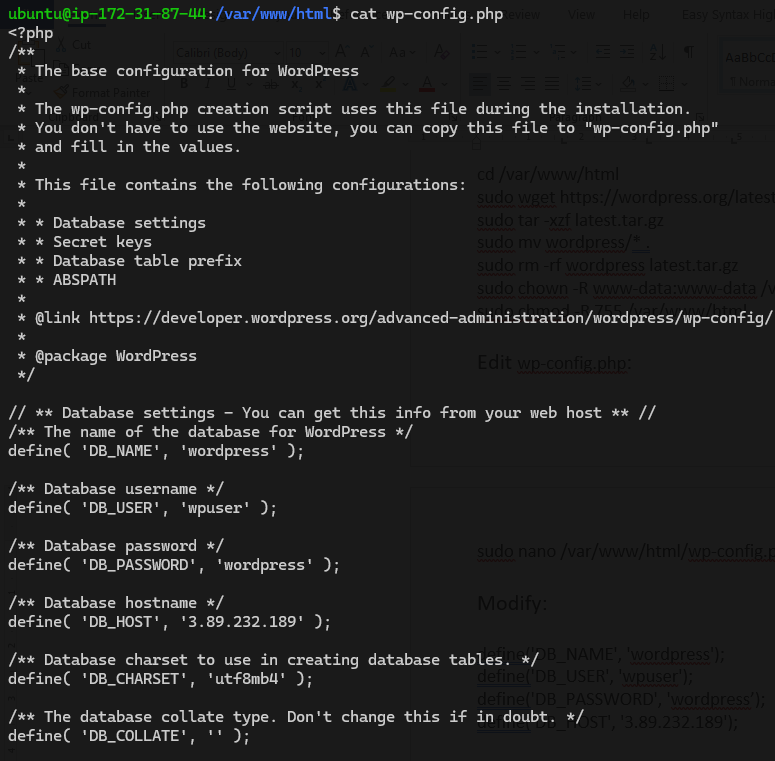
define('DB\_USER', 'wpuser');

define('DB\_PASSWORD', 'wordpress’);

define('DB\_HOST', '3.89.232.189');

Restart Apache:

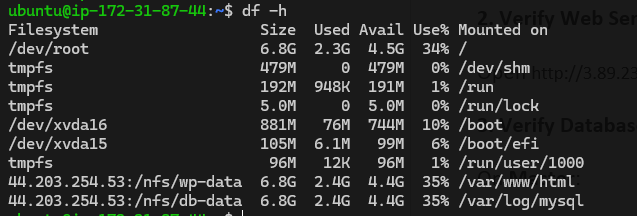
sudo systemctl restart apache2



**Step 5: Testing**

**1. Check NFS**

df -h



**2. Verify Web Server**

Open http://3.89.232.189 in a browser.

