MICROSERVICES ARCHITECTURE

Deploying WordPress and MySQL on two Ubuntu EC2 Instances

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1.Introduction:

To deploy WordPress and MySQL on different Ubuntu EC2 instances using microservices architecture, you would install the WordPress on one Ubuntu instance and MySQL on another ubuntu ec2 instance.

2.Prerequisites:

AWS Account : You need an active AWS account with administrator rights to create and manage EC2 instances.

Key Pair : Create or import an key pair to access the EC2 instance securely.

3. Launching an EC2 Instance:

Launch an EC2 instance for WordPress (Ubuntu):

- Choose an Ubuntu Server AMI.

- Configure the instance type (t2.micro) and network settings as needed.

- Create or choose an existing security group that allows HTTP and HTTPS traffic (port 80 and 443) for the WordPress instance.

Launch a separate EC2 instance for MySQL (Ubuntu):

- Choose an Ubuntu Server AMI.

- Configure the instance type and network settings.

- Create or choose an existing security group that allows MySQL traffic (port 3306) only from the WordPress EC2 instance.

4.Configuring MySQL:

To configure MySQL on the MySQL EC2 Instance

1. Connect to your MySQL EC2 instance using SSH and install MySQL Server:

```bash
sudo apt-get update

sudo apt-get install mysql-server
```

2. Make few changes in the mysql configuration file

```
sudo nano  /etc/mysql/mysql.conf.d/mysqld.cnf
```

We have to change the IP Address to the IP on which our server will be running.In case your IP is not static,you can provide bind-address=0.0.0.0

3. Create a MySQL user and database for WordPress:

```sql
mysql -u root -p
CREATE DATABASE wordpress;
CREATE USER 'wordpressuser'@'wordpress-ec2-public-ip' IDENTIFIED BY 'password';
GRANT ALL PRIVILEGES ON wordpress.* TO 'wordpressuser'@'wordpress-ec2-public-ip';
FLUSH PRIVILEGES;
EXIT;
```

4.Configuring WordPress:

To configure WordPress on the WordPress EC2 Instance

1. Connect to your WordPress EC2 instance using SSH and install the required software:

```bash
sudo apt-get update
sudo apt-get install apache2 php libapache2-mod-php php-mysql
```

2. Download and configure WordPress:

```bash
cd /var/www/html

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

sudo tar -xzf latest.tar.gz

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

sudo mv /var/www/html/wordpress/wp-config-sample.php /var/www/html/wordpress/wp-config.php
```

3. Edit the WordPress configuration file:

```bash
sudo nano /var/www/html/wordpress/wp-config.php
```

Update the database connection settings with the MySQL details you created earlier.

```php
define('DB_NAME', 'wordpress');

define('DB_USER', 'wordpressuser');

define('DB_PASSWORD', 'your_password');

define('DB_HOST', 'mysql-ec2-public-ip');
```

4. Set the necessary permissions:

```bash
sudo chown -R www-data:www-data /var/www/html/wordpress
```

5. Start the Services:

1. Start Apache on the WordPress EC2 instance:

```bash
sudo systemctl start apache2
sudo systemctl enable apache2
```

2. Start MySQL on the MySQL EC2 instance:

```bash
sudo systemctl start mysql
sudo systemctl enable mysql
```

6. Access WordPress:

You can access your WordPress site by opening your web browser and navigating to the public IP address or domain name of your WordPress EC2 instance.

7.Conclusion:

This setup separates the web server and the database server on different EC2 instances, ensuring a more secure and scalable environment. Make sure to secure your instances and keep them updated regularly for security.