AWS WordPress Deployment — Project Report

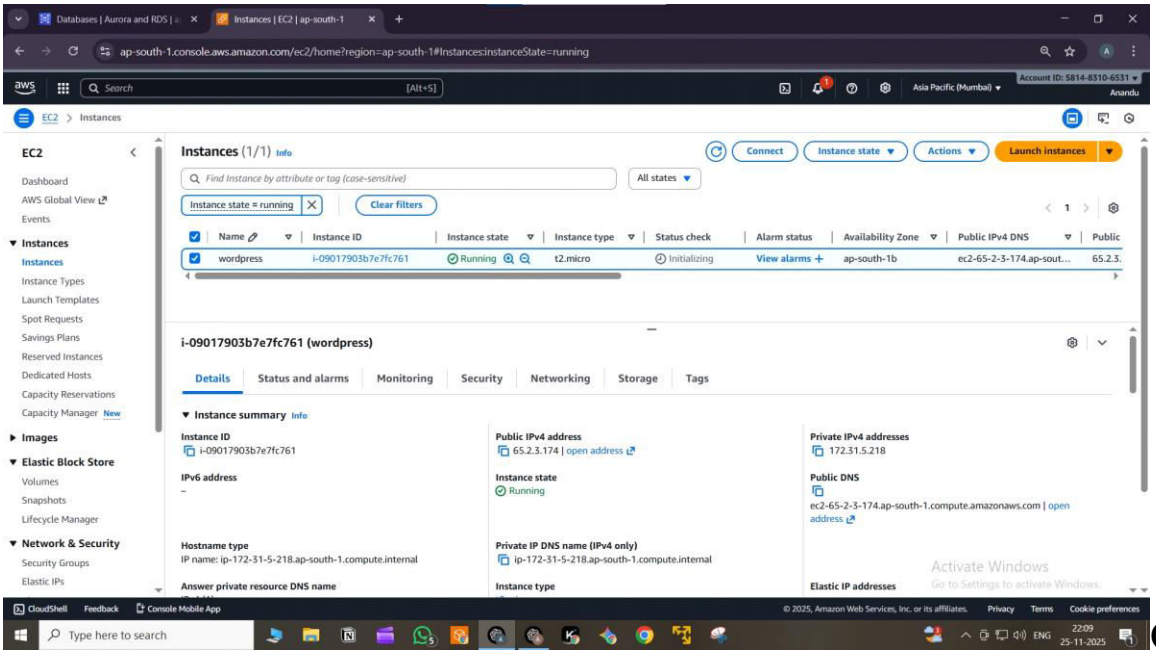
1. Introduction

This project demonstrates the deployment of a fully functional WordPress website using Amazon EC2, Amazon RDS (MySQL), and Amazon Linux 2023.

The objective was to host WordPress under a user directory, configure an RDS database, connect both services securely, and complete installation end-to-end.

2. AWS Infrastructure Components

2.1 EC2 Instance



OS: Amazon Linux 2023

Purpose: Host WordPress + Apache webserver

Security:

SSH open to admin IP

HTTP (80) open to all

Software Installed

1. Apache (httpd)

Webserver used to serve WordPress pages.

2. PHP

Required because WordPress is a PHP-based CMS.

3. php-mysqlnd

PHP module that allows PHP to talk to MySQL databases (through RDS).

4. mariadb105 client

Used on EC2 only to connect to RDS from terminal.
Not used to run a database locally — but essential for admin-level operations.

2.2Amazon RDS – MySQL
Why RDS?

RDS (Relational Database Service) provides:

- High availability
- Automated backups
- Better performance than local DB
- No need to manage database software manually

Why MySQL 8?

WordPress recommends MySQL 5.7+ or MariaDB 10+, so MySQL 8 is modern and stable.

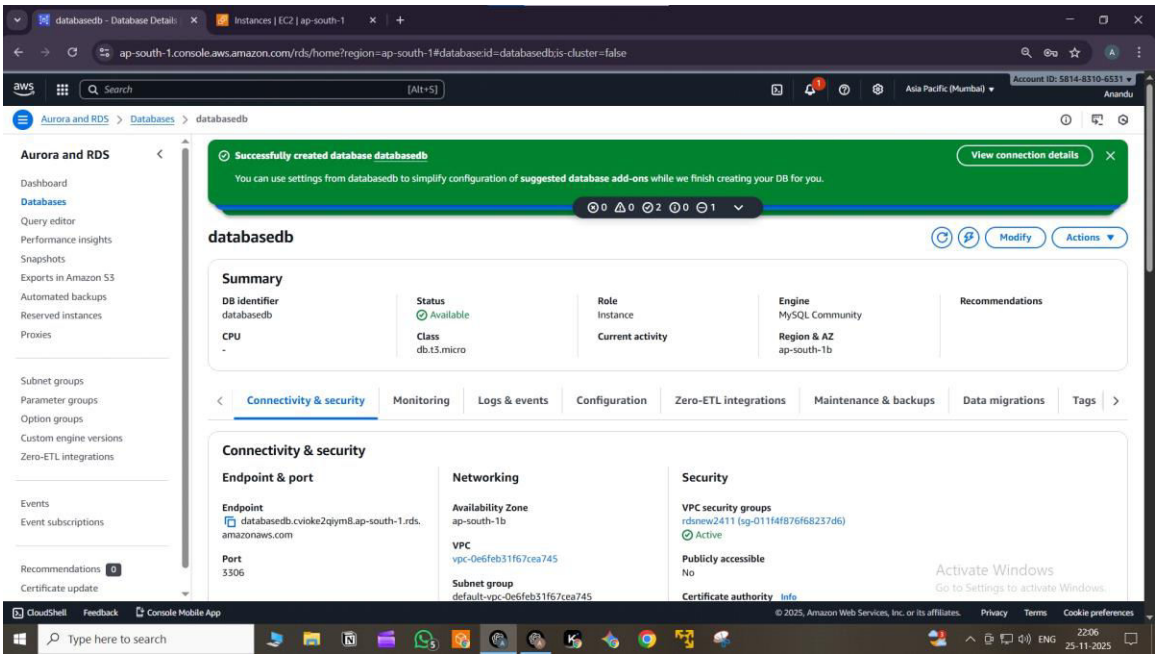
DB Instance Details

- Name: databasedb
- Master Username: admin
- Hosted in private subnet: prevents public internet access
- Only EC2 inside the same VPC can access it

Security Group for RDS

Direction	Rule	Reason
Inbound	Allow port 3306 from EC2 security group	Only EC2 can connect to DB
Outbound	Automatically allowed	RDS replies to EC2

This isolates the database and protects it from external attacks.



Engine: MySQL 8

DB Instance Name: databasedb

User: admin

Connectivity:

Private subnet

Security group allowing EC2 → RDS on port 3306

3. Steps Performed

3.1 EC2 Connection

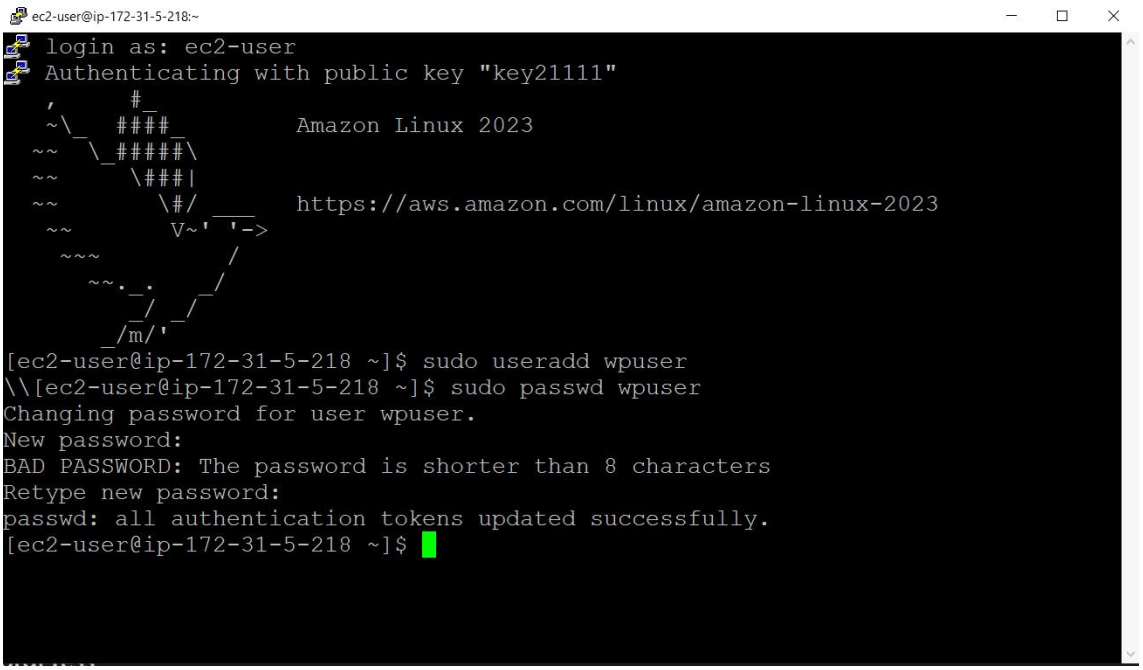
Connected via SSH using:

putty

Created a dedicated user:

#sudo useradd word

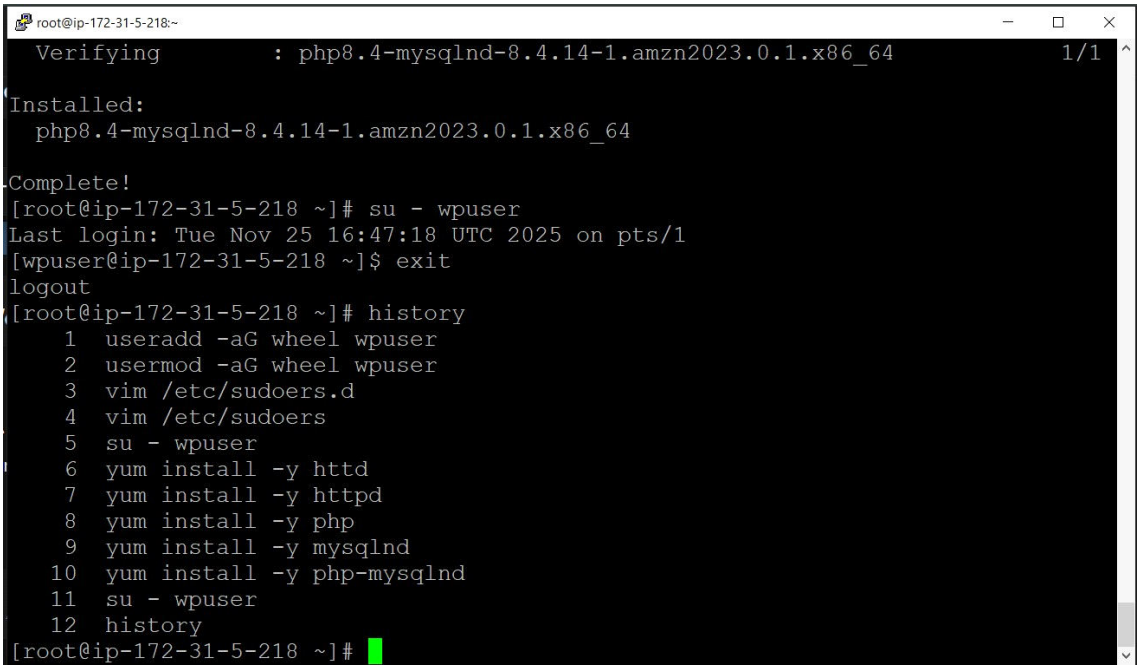
#sudo su - word



3.2 Installing Apache, PHP & Dependencies

#sudo dnf install httpd php php-mysqlnd -y

#sudo systemctl enable --now httpd



3.3 Downloading & Extracting WordPress

Download latest WordPress package

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

Extract it

#tar -xzf latest.tar.gz

3.4 Copying WordPress to Web Directory

Move files into Apache's root

#sudo cp -r wordpress/* /var/www/html/

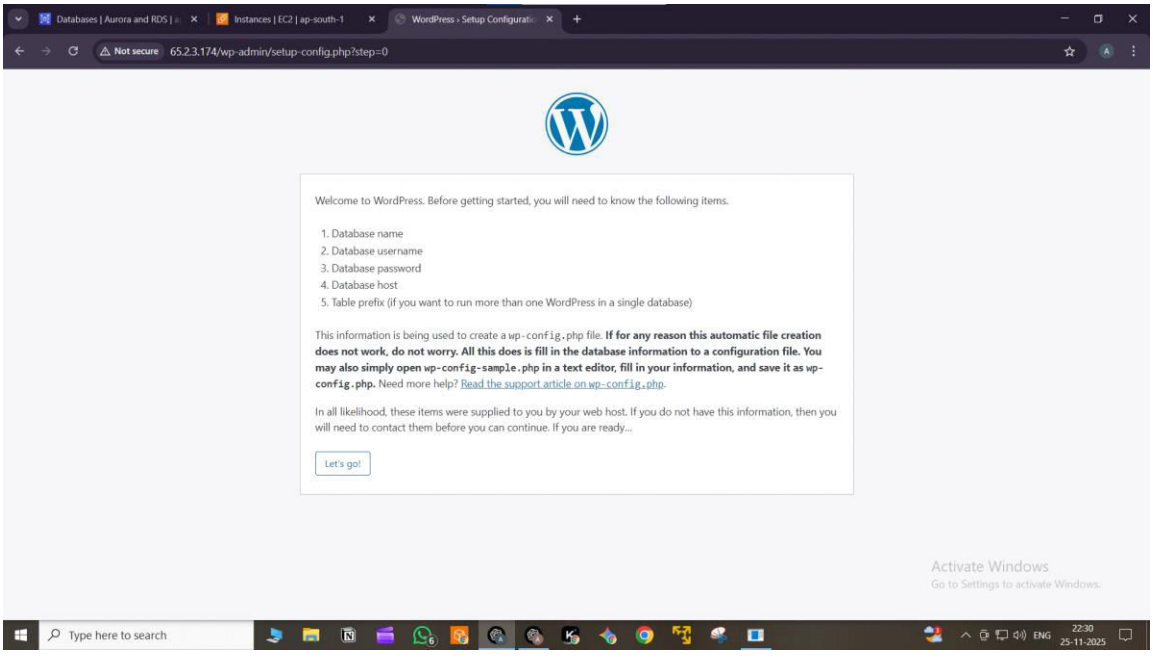
Fix permissions

#sudo chown -R apache:apache /var/www/html

Restart Apache

#sudo systemctl restart httpd

```
[wpuser@ip-172-31-5-218 wordpress]$ sudo chown -R apache:a
pache /var/www/html
[wpuser@ip-172-31-5-218 wordpress]$ sudo systemctl restart
 httpd
[wpuser@ip-172-31-5-218 wordpress]$
[wpuser@ip-172-31-5-218 wordpress]$ history
    1  exit
    2  mkdir /home/wpuser/wordpres
    3  mkdir /home/wpuser/wordpress
    4  rm -rf /home/wpuser/wordpres
    5  ls
    6  cd /home/wpuser
    7  sudo wget https://wordpress.org/latest.tar.gz
    8  ls
    9  sudo tar -xzf latest.tar.gz
   10  ls
   11  cd /home/wpuser/wordpress
   12  ls
   13  cp -r /home/wpuser/wordpress/* /var/www/html
   14  sudo cp -r /home/wpuser/wordpress/* /var/www/html
   15  chown -R apache:apache /var/www/html
   16  sudo chown -R apache:apache /var/www/html
   17  sudo systemctl restart httpd
   18  history
[wpuser@ip-172-31-5-218 wordpress]$
```



This displayed the WordPress welcome page before DB configuration.

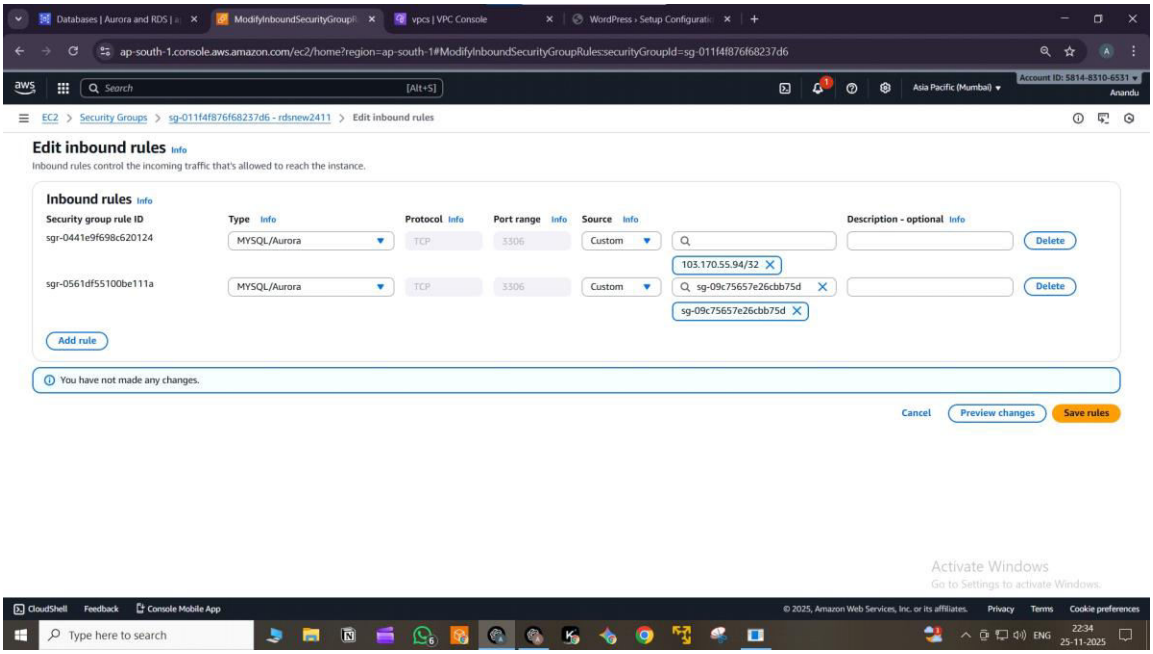
3.5 Connecting EC2 to RDS Securely

Updated security groups:

EC2 SG → allowed outbound 3306

RDS SG → inbound 3306 from EC2 SG

This enabled stable connectivity between webserver and database.



3.6 MySQL Client Installation

Amazon Linux 2023 required MariaDB 10.5 client:

#sudo dnf install mariadb105 -y

Verified with:

#mysql --version

3.7 Connecting to RDS MySQL

#mysql -h databasedb.cvioke2qiym8.ap-south-1.rds.amazonaws.com -u admin -p

3.8 Configuring WordPress Database

Inside MySQL:

USE databasedb;

Checked WordPress users:

SELECT ID, user_login FROM wp_users;

Performed admin password update (deliberate MySQL practice):

UPDATE wp_users

SET user_pass = MD5('Admin@123')

WHERE ID = 1;

3.9 Completing WordPress Installation

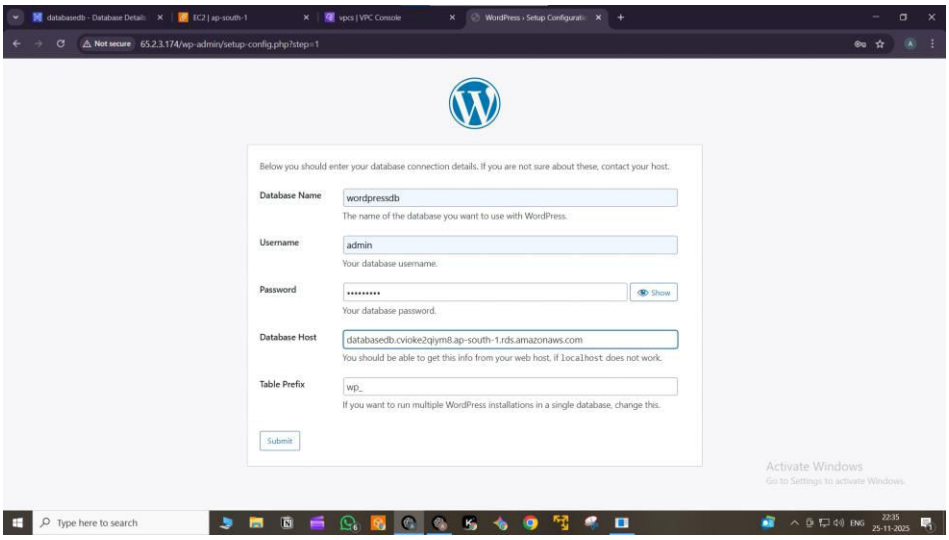
Returned to browser:

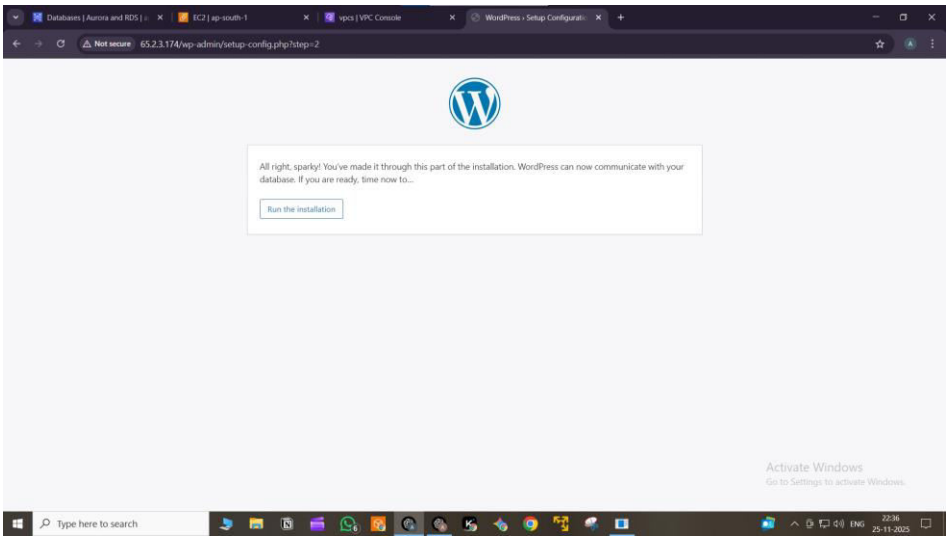
Fehler! Linkreferenz ungültig.

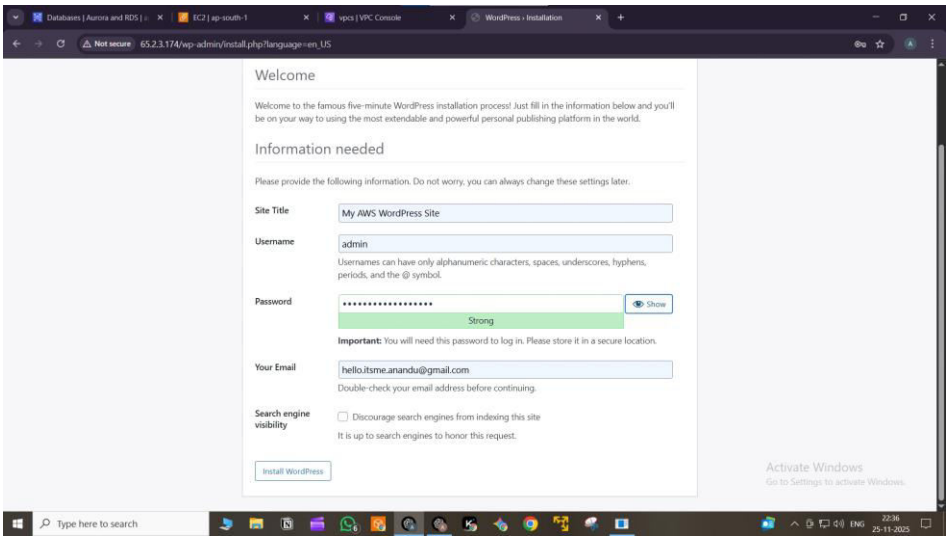
Logged in using updated password

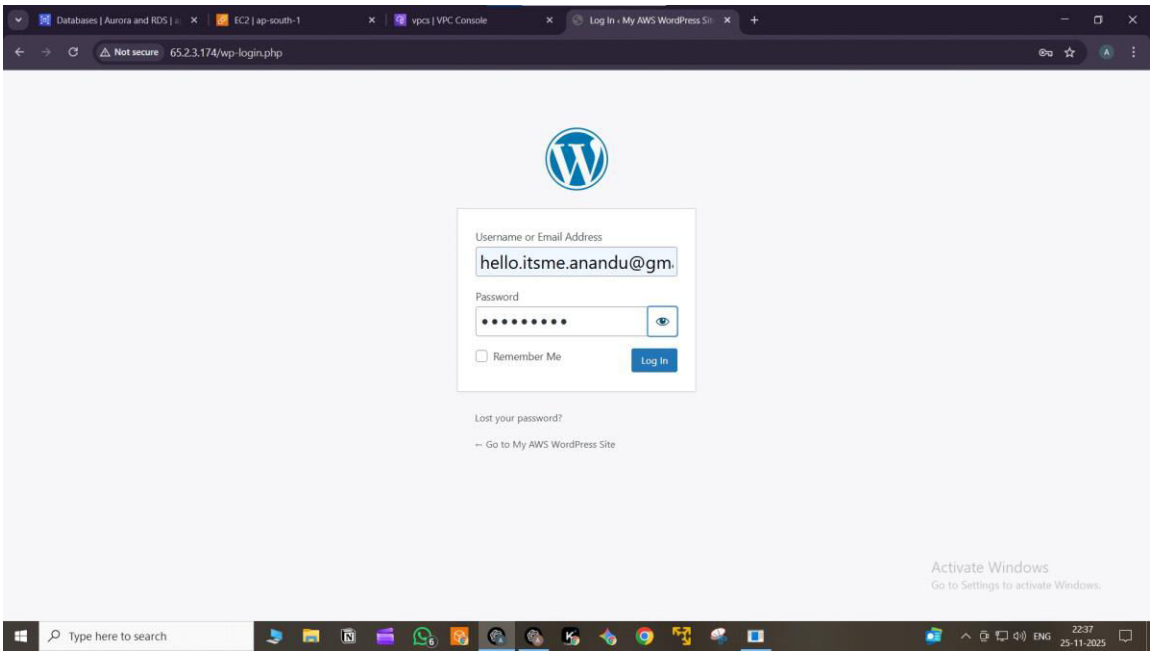
Set site title, admin email, and configured dashboard

Site successfully loaded after database linkage.

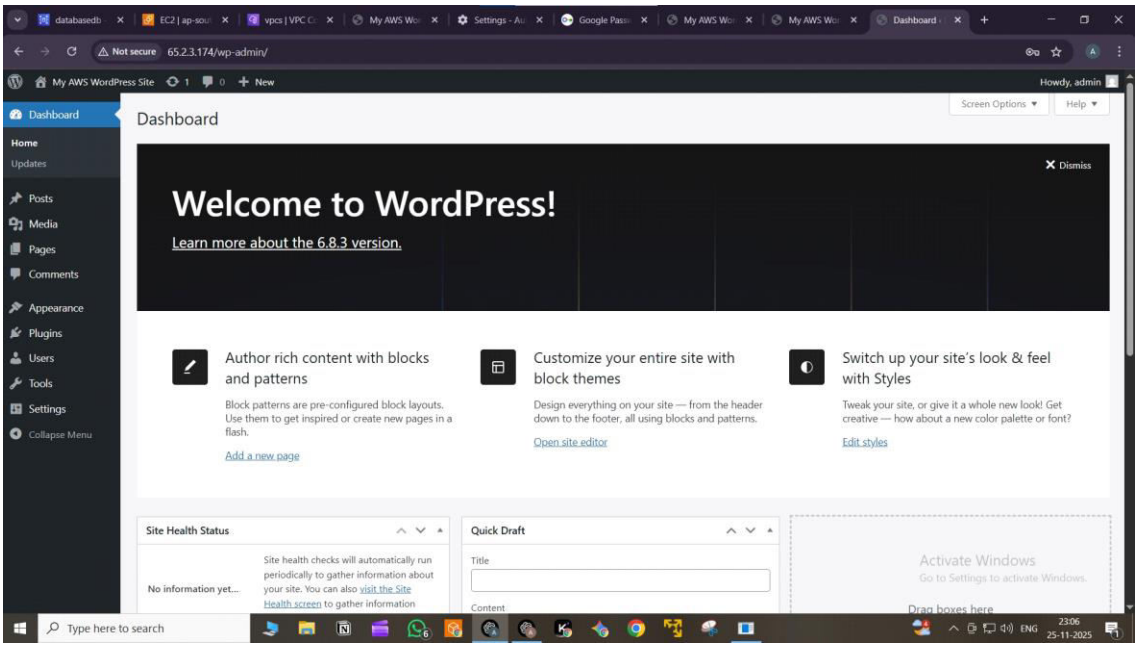

Not secure 65.2.3.174/wp-admin/setup-config.php?step=1
Below you should enter your database connection details. If you are not sure about these, contact your host.
Database Name
wordpressdb
The name of the database you want to use with WordPress.
Username
admin
Your database username.
Password
Show
Your database password.
Database Host
databasedb.cvioke2qiym8.ap-south-1.rds.amazonaws.com
You should be able to get this info from your web host, if localhost does not work.
Table Prefix
wp_
If you want to run multiple WordPress installations in a single database, change this.
Submit
Activate Windows
Type here to search


Not secure 65.2.3.174/wp-admin/setup-config.php?step=2
All right, sparky! You've made it through this part of the installation. WordPress can now communicate with your database. If you are ready, time now to...
Run the installation
Activate Windows
Type here to search


Not secure 65.2.3.174/wp-admin/install.php?language=en_US
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
My AWS WordPress Site
Username
admin
Usernames can have only alphanumeric characters, spaces, underscores, hyphens, periods, and the @ symbol.
Password
Show
Strong
Important: You will need this password to log in. Please store it in a secure location.
Your Email
hello.itsme.anandu@gmail.com
Double-check your email address before continuing.
Search engine visibility
Discourage search engines from indexing this site
It is up to search engines to honor this request.
Install WordPress
Activate Windows
Type here to search



4. Results



WordPress successfully deployed on Amazon EC2

Database hosted on Amazon RDS and connected securely

Admin credentials updated via MySQL query execution

WordPress dashboard accessible and functioning

End-to-end cloud hosting workflow achieved

5. Learnings

Configuring secure EC2–RDS interactions

Managing MySQL from Amazon Linux 2023

Deploying WordPress without GUI tools

Understanding Apache, permissions, and directory structure

Using MySQL queries to maintain WordPress users

Troubleshooting Apache/WordPress setup issues

6. Conclusion

This task provided strong hands-on experience with AWS services, Linux administration, WordPress deployment, and database operations. The final setup delivers a fully working cloud-hosted WordPress environment integrated with an RDS backend—both secure and scalable.