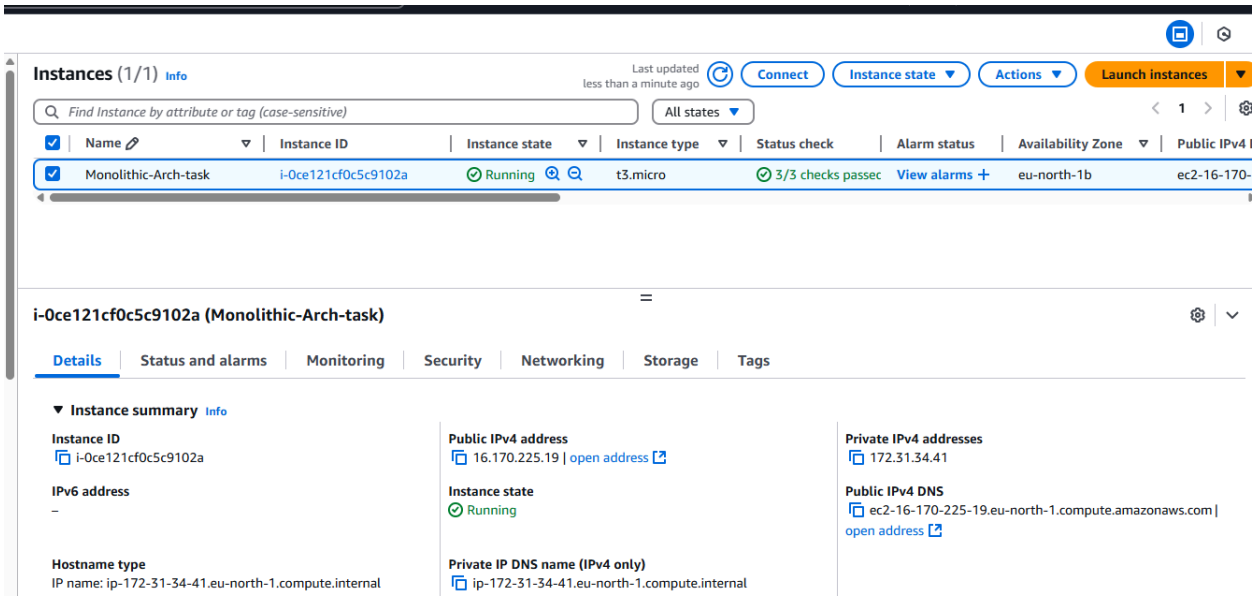
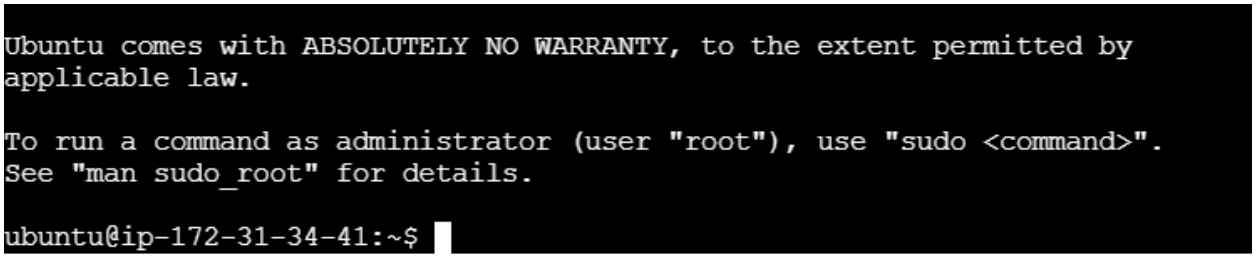
Description: For monolithic : 1 EC2 instance, deploy wordpress and MYSQL on the same instances.
For microservices: 2 EC2 instances, 1 for wordpress and 1 for MYSQL.
Configure the necessary security group for the instances.
EC2 instance type: t2-micro, AMI: ubuntu-*.
Create a welcome page in wordpress that will be the homepage.

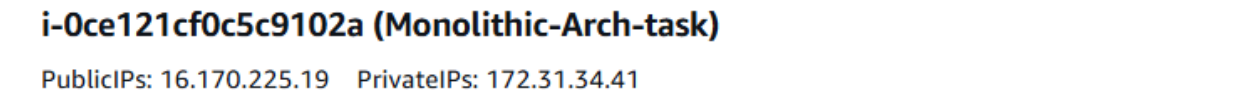
Project Screenshots attached for Monolithic Architecture Task:

Created instance for first task of monolithic architecture:



Ssh to the instance





Security group settings of server

Details

Security group name	Security group ID	Description	VPC ID
launch-wizard-1	sg-08336514e275645a5	launch-wizard-1 created 2025-05-12T07:37:52.469Z	vpc-0cf2477779e34c7fc

Owner	Inbound rules count	Outbound rules count
058264486650	3 Permission entries	1 Permission entry

Inbound rules | Outbound rules | Sharing - *new* | VPC associations - *new* | Tags

Inbound rules (3)

Search

Manage tags | Edit inbound rules

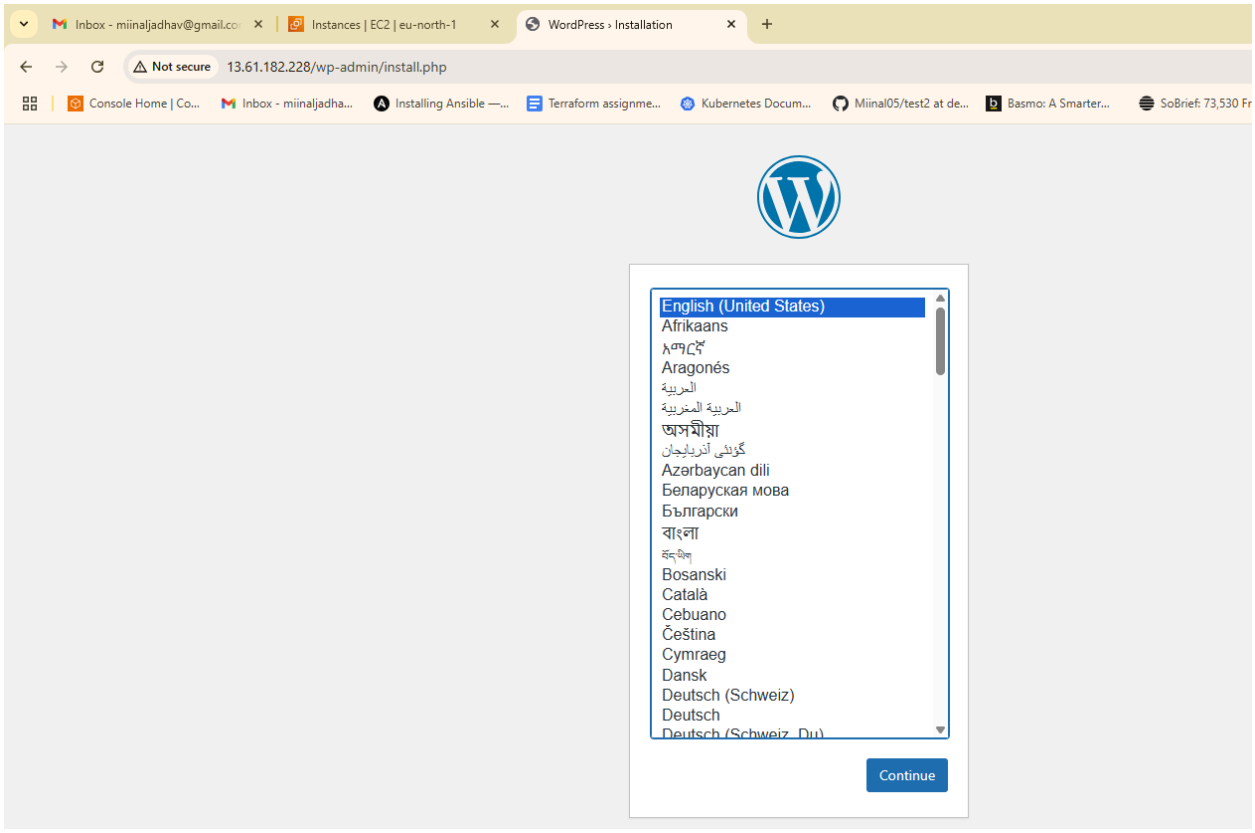
1

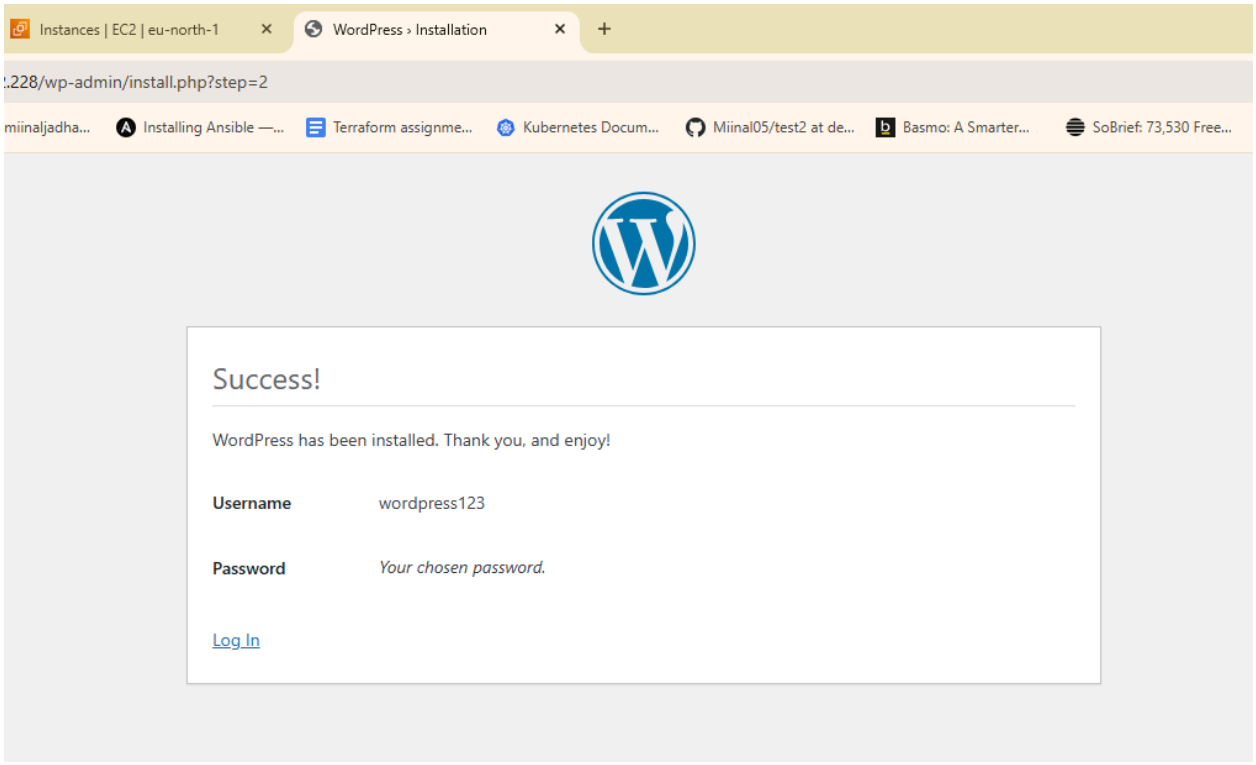
roup rule ID	IP version	Type	Protocol	Port ra...	Source
99efd87b31f4	IPv4	SSH	TCP	22	0.0.0.0/0
2386a69fa476	IPv4	HTTP	TCP	80	0.0.0.0/0
6a2d425f247e	IPv4	HTTPS	TCP	443	0.0.0.0/0

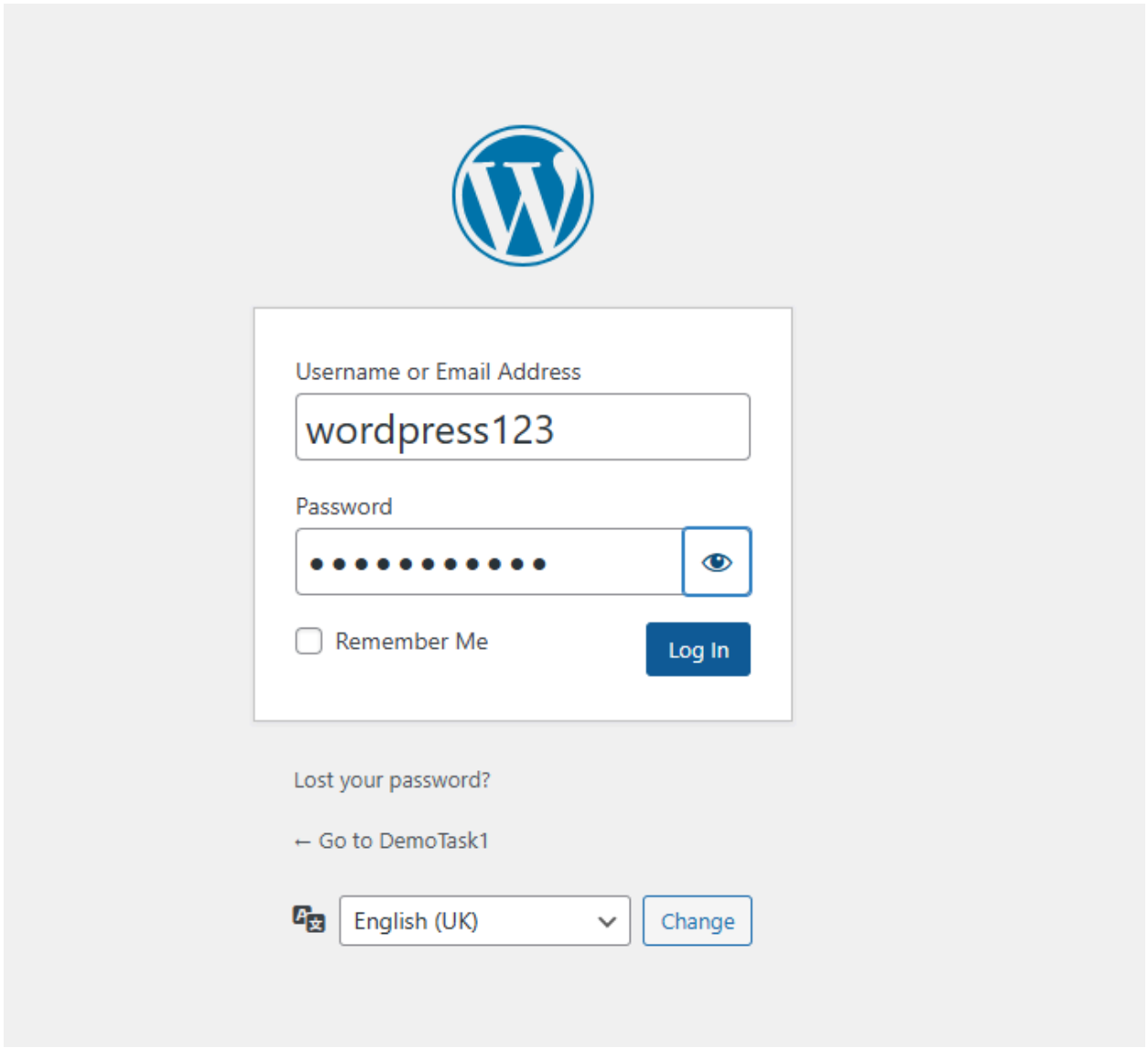
Mysql installed

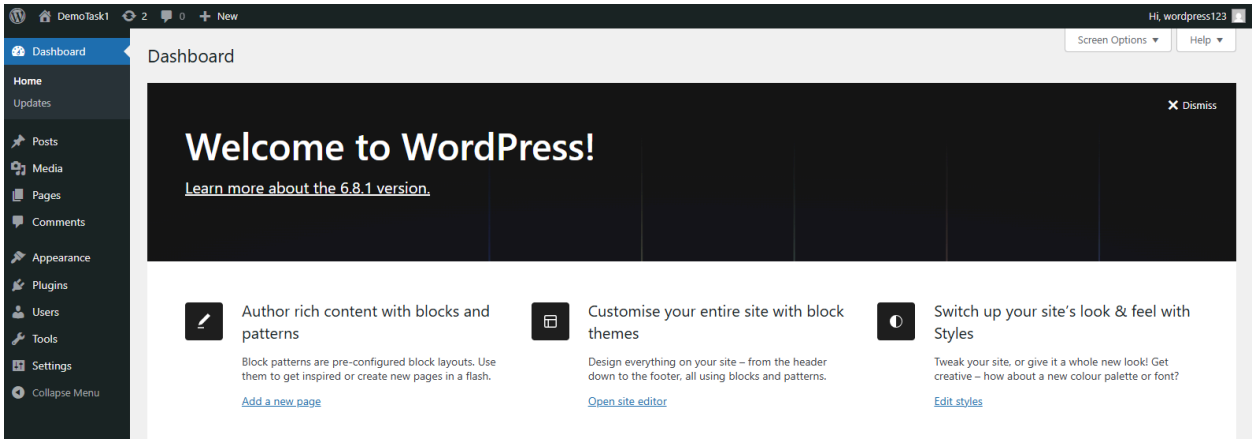
```
ubuntu@ip-172-31-22-163:~$ sudo systemctl restart apache2
ubuntu@ip-172-31-22-163:~$ mysql --version
mysql  Ver 8.0.42-0ubuntu0.24.04.1 for Linux on x86_64 ((Ubuntu))
ubuntu@ip-172-31-22-163:~$
```

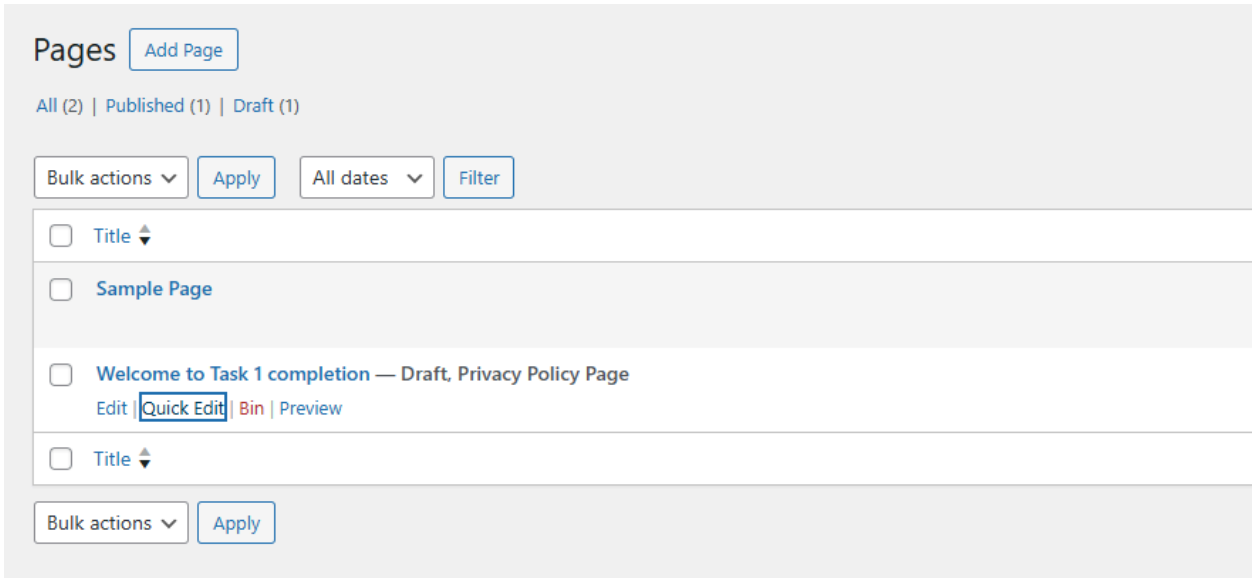
Accessing wordpress now:

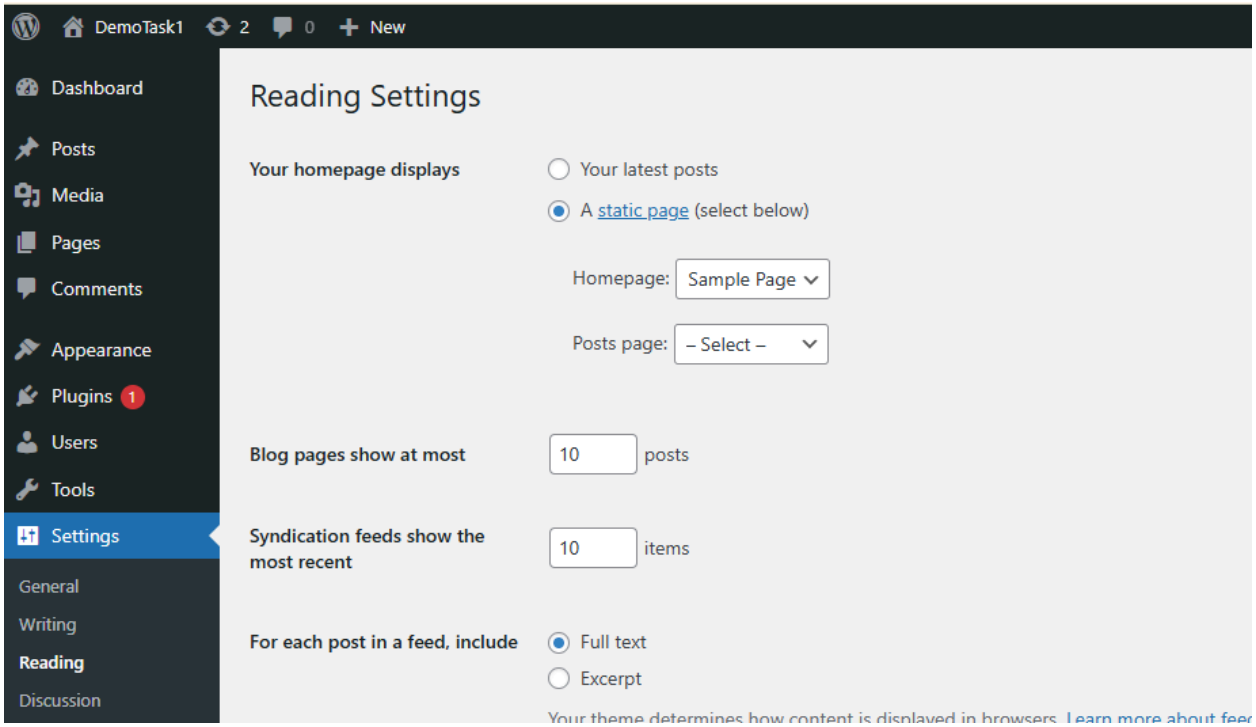



Instances | EC2 | eu-north-1
WordPress › Installation
.228/wp-admin/install.php?step=2
miinaljadha...
Installing Ansible —...
Terraform assignme...
Kubernetes Docum...
Miinal05/test2 at de...
Basmo: A Smarter...
SoBrief: 73,530 Free...
Success!
WordPress has been installed. Thank you, and enjoy!
Username
wordpress123
Password
Your chosen password.
Log In

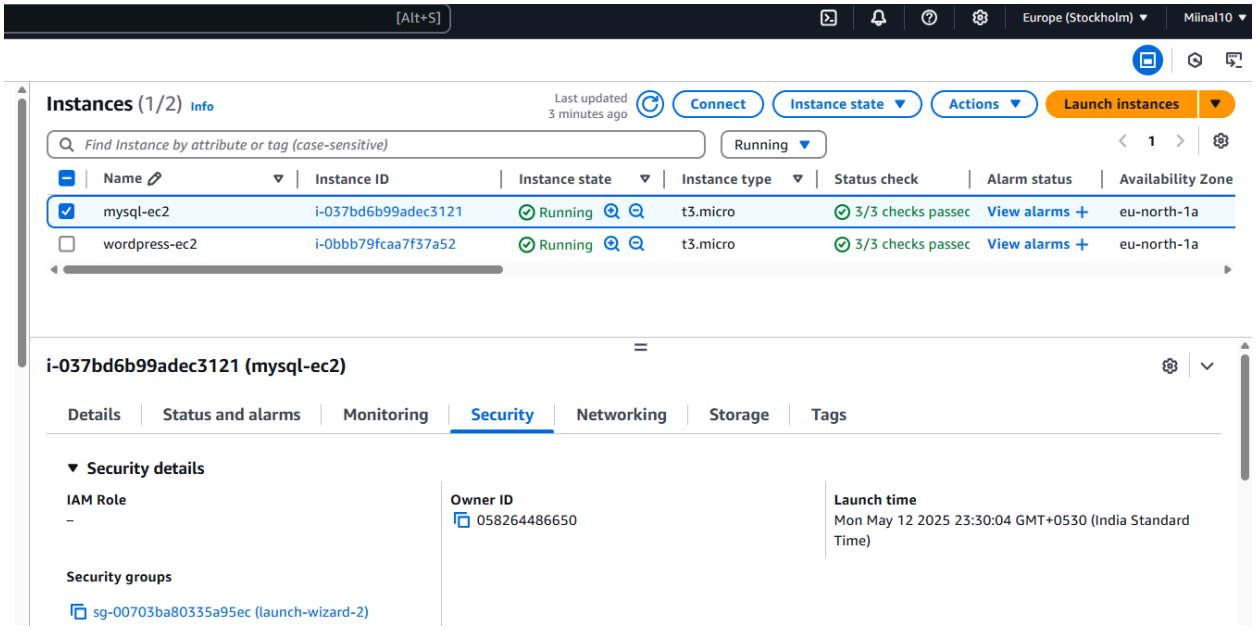

Username or Email Address
wordpress123
Password
Remember Me
Log In
Lost your password?
← Go to DemoTask1
English (UK)
Change


DemoTask1
New
Hi, wordpress123
Dashboard
Home
Updates
Posts
Media
Pages
Comments
Appearance
Plugins
Users
Tools
Settings
Collapse Menu
Screen Options
Help
Dismiss
Welcome to WordPress!
Learn more about the 6.8.1 version.
Author rich content with blocks and patterns
Block patterns are pre-configured block layouts. Use them to get inspired or create new pages in a flash.
Add a new page
Customise your entire site with block themes
Design everything on your site – from the header down to the footer, all using blocks and patterns.
Open site editor
Switch up your site's look & feel with Styles
Tweak your site, or give it a whole new look! Get creative – how about a new colour palette or font?
Edit styles

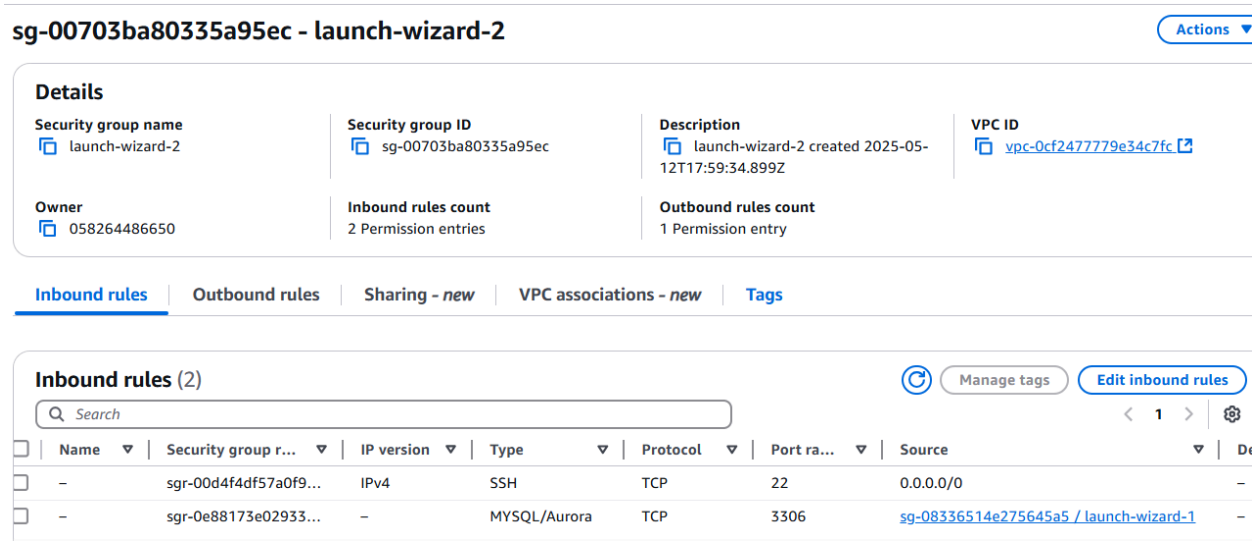




Project Screenshots attached for Microservices Architecture Task:
Both instances are running:



Mysql security group settings:



Wordpress-ec2 security group settings:

sg-08336514e275645a5 - launch-wizard-1

Actions

Details

Security group name	Security group ID	Description	VPC ID
launch-wizard-1	sg-08336514e275645a5	launch-wizard-1 created 2025-05-12T07:37:52.469Z	vpc-0cf2477779e34c7fc

Owner	Inbound rules count	Outbound rules count
058264486650	3 Permission entries	1 Permission entry

Inbound rules | Outbound rules | Sharing - *new* | VPC associations - *new* | Tags

Inbound rules (3)

Manage tags | Edit inbound rules

Search

1

Name	Security group r...	IP version	Type	Protocol	Port ra...	Source
–	sgr-0a9e299efd87b...	IPv4	SSH	TCP	22	0.0.0.0/0
–	sgr-0e9972386a69f...	IPv4	HTTP	TCP	80	0.0.0.0/0
–	sgr-0d8726a2d425f...	IPv4	HTTPS	TCP	443	0.0.0.0/0

Mysql installed successfully

```
Reload privilege tables now? (Press y|Y for Yes, any other key for No) : y
Success.

All done!
ubuntu@ip-172-31-16-10:~$ mysql --version
mysql  Ver 8.0.42-0ubuntu0.24.04.1 for Linux on x86_64 ((Ubuntu))
ubuntu@ip-172-31-16-10:~$
```

i-037bd6b99adec3121 (mysql-ec2)

PublicIPs: 56.228.2.136 PrivateIPs: 172.31.16.10

```
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 10
Server version: 8.0.42-0ubuntu0.24.04.1 (Ubuntu)

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affiliates. Other names may be trademarks of their respective
owners.

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

mysql> CREATE DATABASE wordpress;
Query OK, 1 row affected (0.09 sec)
```

```
mysql> CREATE USER 'wordpressuser'@'localhost' IDENTIFIED BY 'User123$';
Query OK, 0 rows affected (0.01 sec)

mysql> GRANT ALL PRIVILEGES ON wordpress.* TO 'wordpressuser'@'localhost';
Query OK, 0 rows affected (0.00 sec)

mysql> FLUSH PRIVILEGES;
Query OK, 0 rows affected (0.00 sec)

mysql> EXIT;
Bye
ubuntu@ip-172-31-16-10:~$
```

i-037bd6b99adec3121 (mysql-ec2)

PublicIPs: 56.228.2.136 PrivateIPs: 172.31.16.10

```
# localhost which is more compatible and is not less secure.
bind-address            = 0.0.0.0
mysqlx-bind-address     = 127.0.0.1
#
# * Fine Tuning
#
key_buffer_size         = 16M
# max_allowed_packet    = 64M
# thread_stack          = 256K

# thread_cache_size       = -1


^G Help          ^O Write Out     ^W Where Is      ^K Cut           ^T E
^X Exit          ^R Read File     ^\ Replace       ^U Paste         ^J J
```

i-037bd6b99adec3121 (mysql-ec2)

PublicIPs: 56.228.2.136 PrivateIPs: 172.31.16.10

```
ubuntu@ip-172-31-16-10:~$ sudo systemctl restart mysql
ubuntu@ip-172-31-16-10:~$ sudo systemctl status mysql
● mysql.service - MySQL Community Server
     Loaded: loaded (/usr/lib/systemd/system/mysql.service; enabled; preset: enabled)
     Active: active (running) since Mon 2025-05-12 18:26:26 UTC; 25s ago
    Process: 18888 ExecStartPre=/usr/share/mysql/mysql-systemd-start pre (code=exited, status=0/SUCCESS)
   Main PID: 18897 (mysqld)
     Status: "Server is operational"
      Tasks: 38 (limit: 1077)
     Memory: 390.2M (peak: 409.2M)
        CPU: 1.008s
     CGroup: /system.slice/mysql.service
             └─18897 /usr/sbin/mysqld

May 12 18:26:25 ip-172-31-16-10 systemd[1]: Starting mysql.service - MySQL Community Server...
May 12 18:26:26 ip-172-31-16-10 systemd[1]: Started mysql.service - MySQL Community Server.
ubuntu@ip-172-31-16-10:~$
```

i-037bd6b99adec3121 (mysql-ec2)

PublicIPs: 56.228.2.136 PrivateIPs: 172.31.16.10

```
mysql> SHOW DATABASES;
+--------------------+
| Database           |
+--------------------+
| information_schema |
| mysql              |
| performance_schema |
| sys                |
| wordpress          |
+--------------------+
5 rows in set (0.00 sec)

mysql>
```

i-037bd6b99adec3121 (mysql-ec2)

PublicIPs: 56.228.2.136 PrivateIPs: 172.31.16.10

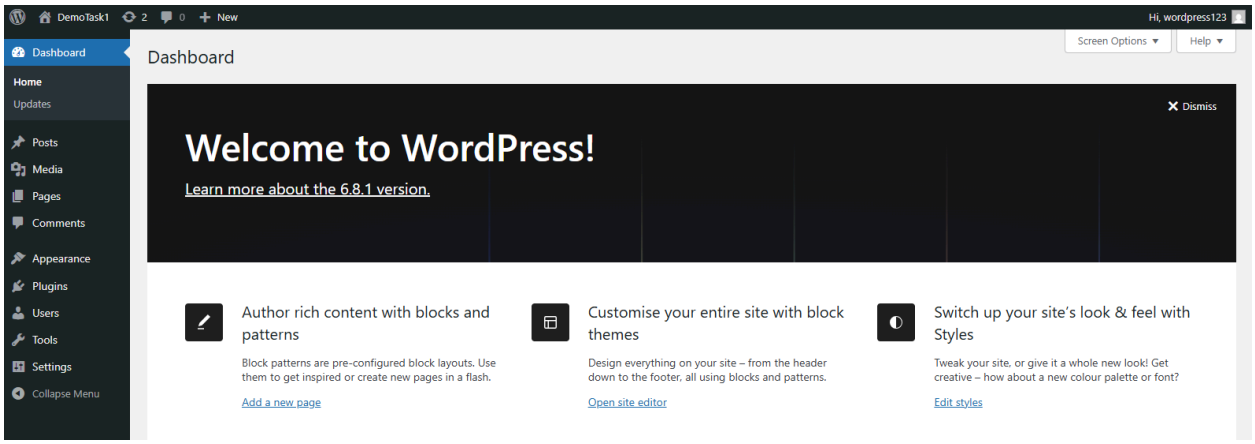
Now installing wordpress and its dependencies in wordpress-ec2 instance

```
ubuntu@ip-172-31-28-146:~$ cd /var/www/html
ubuntu@ip-172-31-28-146:/var/www/html$ ls
index.php    wp-activate.php     wp-comments-post.php  wp-content   wp-links-opml.php  wp-mail.php      wp-trackback.php
license.txt  wp-admin            wp-config-sample.php  wp-cron.php  wp-load.php        wp-settings.php  xmlrpc.php
readme.html  wp-blog-header.php  wp-config.php         wp-includes  wp-login.php       wp-signup.php
ubuntu@ip-172-31-28-146:/var/www/html$ sudo touch index.html
ubuntu@ip-172-31-28-146:/var/www/html$ ls
index.html   readme.html      wp-blog-header.php    wp-config.php  wp-includes        wp-login.php     wp-signup.php
index.php    wp-activate.php  wp-comments-post.php  wp-content     wp-links-opml.php  wp-mail.php      wp-trackback.php
license.txt  wp-admin         wp-config-sample.php  wp-cron.php    wp-load.php        wp-settings.php  xmlrpc.php
ubuntu@ip-172-31-28-146:/var/www/html$ cd
ubuntu@ip-172-31-28-146:~$ sudo mv /var/www/html/index.html /var/www/html/index.html.bak
ubuntu@ip-172-31-28-146:~$ cd /var/www/html
ubuntu@ip-172-31-28-146:/var/www/html$ sudo cp wp-config-sample.php wp-config.php
ubuntu@ip-172-31-28-146:/var/www/html$ sudo nano wp-config.php
ubuntu@ip-172-31-28-146:/var/www/html$ sudo systemctl restart apache2
ubuntu@ip-172-31-28-146:/var/www/html$ cd
ubuntu@ip-172-31-28-146:~$ sudo systemctl restart apache2
ubuntu@ip-172-31-28-146:~$
```

i-0bbb79fcaa7f37a52 (wordpress-ec2)

PublicIPs: 51.20.80.126 PrivateIPs: 172.31.28.146

Commands used:

1 sudo apt update && sudo apt upgrade -y
2 sudo apt install apache2 php php-mysql libapache2-mod-php php-cli unzip curl -y
3 cd /var/www/html
4 sudo rm index.html
5 sudo curl -O https://wordpress.org/latest.tar.gz
6 sudo tar -xzf latest.tar.gz
7 sudo mv wordpress/* .
8 sudo rm -rf wordpress latest.tar.gz
9 sudo chown -R www-data:www-data /var/www/html
10 sudo chmod -R 755 /var/www/html

```
11  sudo cp wp-config-sample.php wp-config.php
12  sudo nano wp-config.php
13  cd
14  sudo systemctl restart apache2
15  sudo systemctl status apache2
16  cd /var/ww/html
17  cd /var/www/html
18  ls
19  sudo touch wp-config.php
20  ls
21  sudo nano wp-config.php
22  cat wp-config.php
23  cd
24  sudo systemctl restart apache2
25  cd .\/var/www/html
26  cd /var/www/html
27  ls
28  sudo mv wp-config-sample.php wp-config.php
29  sudo nano wp-config.php
30  cat wp-config.php
31  sudo systemctl restart apache2
```