

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, AML: 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:

The screenshot displays the AWS Management Console interface for an EC2 instance. At the top, there's a header with 'Instances (1/1)' and a search bar. Below this is a table listing the instance 'Monolithic-Arch-task' with ID 'i-0ce121cf0c5c9102a', state 'Running', type 't3.micro', and availability zone 'eu-north-1b'. The instance is shown as 'Running' with a green checkmark and '3/3 checks passed'. Below the table, the 'Details' tab is selected, showing the instance summary. The summary includes the instance ID, IPv6 address, hostname type, public IPv4 address (16.170.225.19), private IPv4 address (172.31.34.41), public IPv4 DNS (ec2-16-170-225-19.eu-north-1.compute.amazonaws.com), and private IP DNS name (ip-172-31-34-41.eu-north-1.compute.internal).

Ssh to the instance

```
Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

ubuntu@ip-172-31-34-41:~$
```

i-0ce121cf0c5c9102a (Monolithic-Arch-task)

PublicIPs: 16.170.225.19 PrivateIPs: 172.31.34.41

Security group settings of server

Details			
Security group name launch-wizard-1	Security group ID sg-08336514e275645a5	Description launch-wizard-1 created 2025-05-12T07:37:52.469Z	VPC ID vpc-0cf2477779e34c7fc
Owner 058264486650	Inbound rules count 3 Permission entries	Outbound rules count 1 Permission entry	

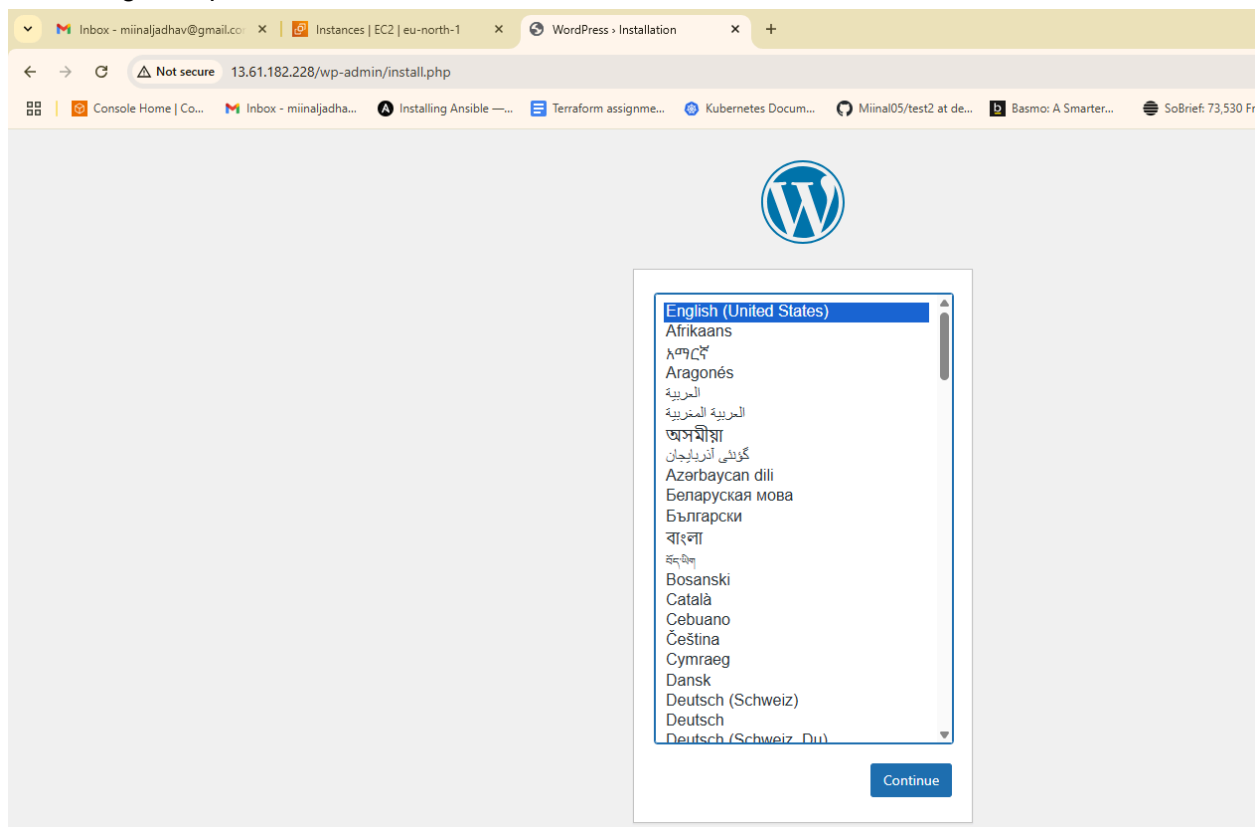
[Inbound rules](#) | [Outbound rules](#) | [Sharing - new](#) | [VPC associations - new](#) | [Tags](#)

Inbound rules (3)							
<input type="text" value="Search"/>							
group rule ID	IP version	Type	Protocol	Port range	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	<i>Your chosen password.</i>

[Log In](#)



Username or Email Address

Password

☐ Remember Me

Log In

Lost your password?

← Go to DemoTask1



English (UK)



Change

WordPress

DemoTask1

2

0

New

Hi, wordpress123

Screen Options

Help

Dashboard

Home

Updates

Posts

Media

Pages

Comments

Appearance

Plugins

Users

Tools

Settings

Collapse Menu

Dashboard

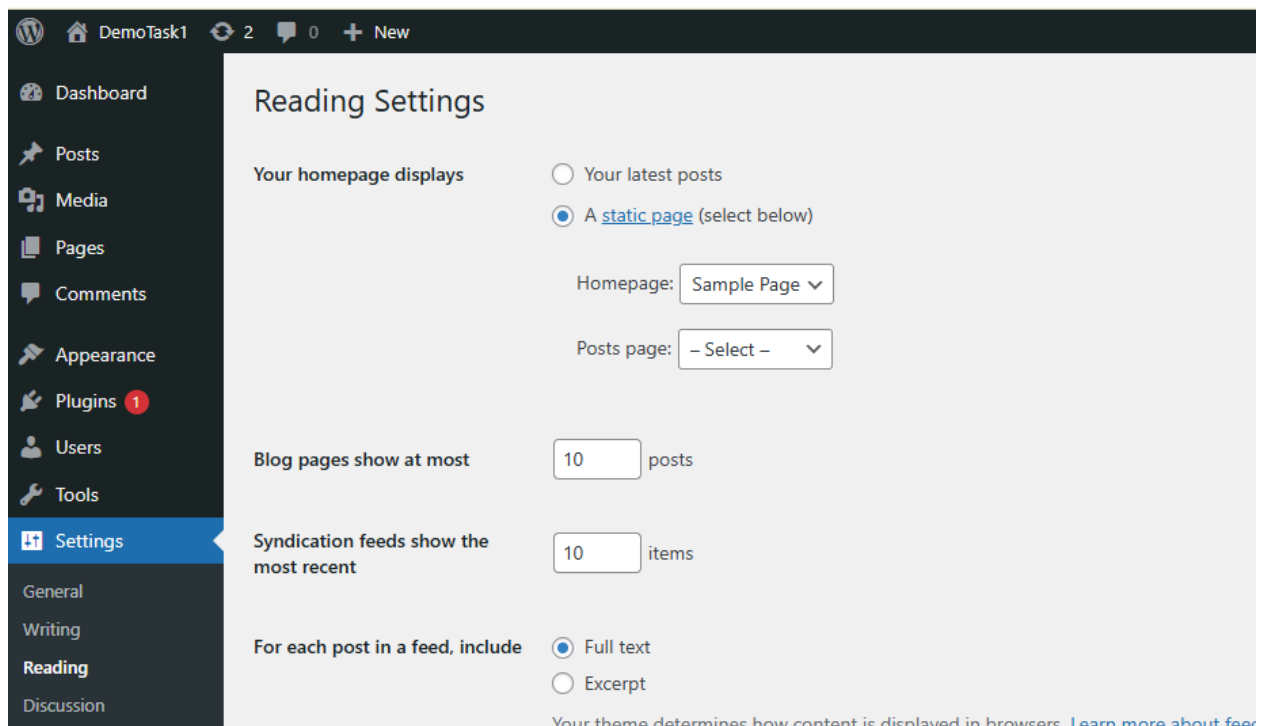
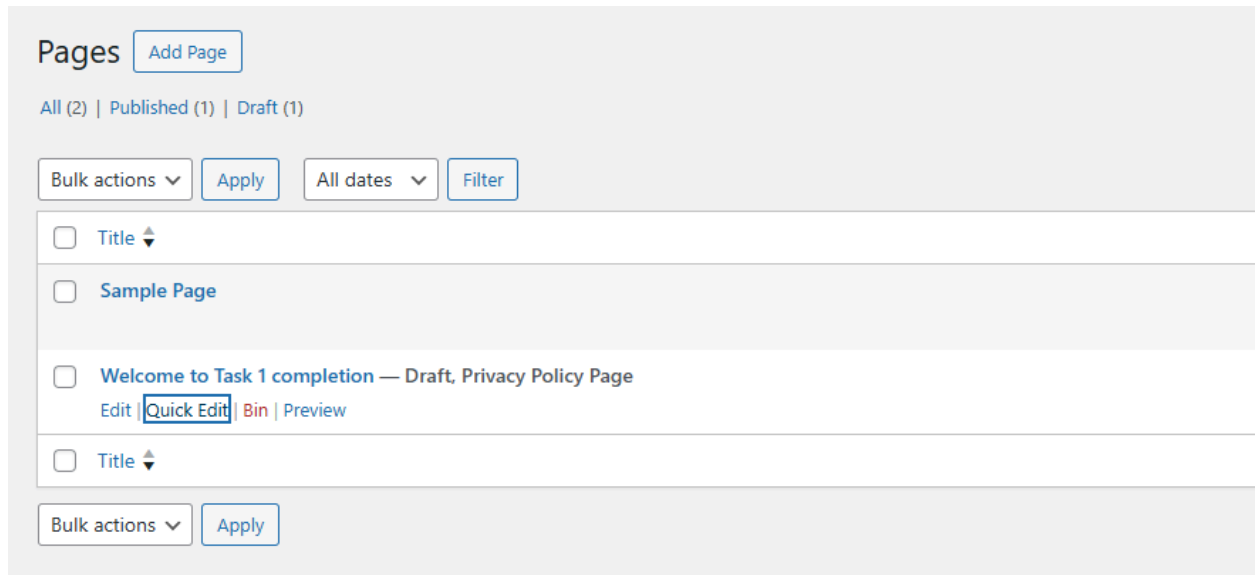
Welcome to WordPress!

[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:

[Alt+S]

Europe (Stockholm)

Milnal10

Instances (1/2) Info

Last updated 3 minutes ago

Connect

Instance state

Actions

Launch instances

Find Instance by attribute or tag (case-sensitive)

Running

< 1 >

	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone
<input checked="" type="checkbox"/>	mysql-ec2	i-037bd6b99adec3121	Running	t3.micro	3/3 checks passed	View alarms +	eu-north-1a
<input type="checkbox"/>	wordpress-ec2	i-0bbb79fcaa7f37a52	Running	t3.micro	3/3 checks passed	View alarms +	eu-north-1a

i-037bd6b99adec3121 (mysql-ec2)

Details

Status and alarms

Monitoring

Security

Networking

Storage

Tags

▼ Security details

IAM Role

-

Owner ID

058264486650

Launch time

Mon May 12 2025 23:30:04 GMT+0530 (India Standard Time)

Security groups

sg-00703ba80335a95ec (launch-wizard-2)

Mysql security group settings:

sg-00703ba80335a95ec - launch-wizard-2

Actions

Details

Security group name

launch-wizard-2

Security group ID

sg-00703ba80335a95ec

Description

launch-wizard-2 created 2025-05-12T17:59:34.899Z

VPC ID

vpc-0cf2477779e34c7fc

Owner

058264486650

Inbound rules count

2 Permission entries

Outbound rules count

1 Permission entry

Inbound rules

Outbound rules

Sharing - new

VPC associations - new

Tags

Inbound rules (2)

Manage tags

Edit inbound rules

Search

< 1 >

	Name	Security group r...	IP version	Type	Protocol	Port ra...	Source	
<input type="checkbox"/>	-	sgr-00d4f4df57a0f9...	IPv4	SSH	TCP	22	0.0.0.0/0	-
<input type="checkbox"/>	-	sgr-0e88173e02933...	-	MYSQL/Aurora	TCP	3306	sg-08336514e275645a5 / launch-wizard-1	-

Wordpress-ec2 security group settings:

sg-08336514e275645a5 - launch-wizard-1

Actions

Details

Security group name
launch-wizard-1

Security group ID
sg-08336514e275645a5

Description
launch-wizard-1 created 2025-05-12T07:37:52.469Z

VPC ID
vpc-0cf2477779e34c7fc

Owner
058264486650

Inbound rules count
3 Permission entries

Outbound rules count
1 Permission entry

Inbound rules

Outbound rules

Sharing - new

VPC associations - new

Tags

Inbound rules (3)



Manage tags

Edit inbound rules

Search

< 1 > ⚙

<input type="checkbox"/>	Name	Security group r...	IP version	Type	Protocol	Port ra...	Source
<input type="checkbox"/>	-	sgr-0a9e299efd87b...	IPv4	SSH	TCP	22	0.0.0.0/0
<input type="checkbox"/>	-	sgr-0e9972386a69f...	IPv4	HTTP	TCP	80	0.0.0.0/0
<input type="checkbox"/>	-	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/www/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
```

