

TECHPLEMENT - Cloud AWS Intern

Name: Koushik Yamsani

Github: <https://github.com/Kstar512>

LinkedIn: www.linkedin.com/in/yamsani-koushik-8943821a4

Task 1: Monolithic: - 1 EC2 instance, deploying WordPress and MySQL on the same instance

Launch an EC2 Instance

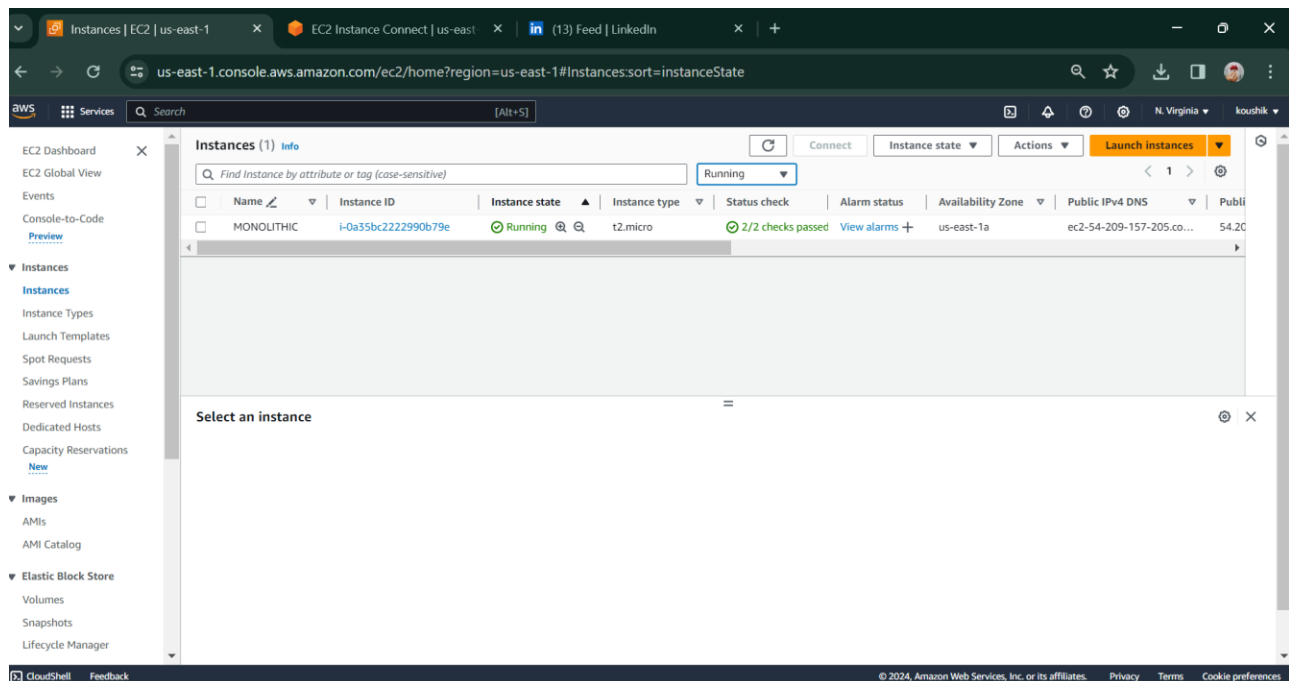
Navigate to the EC2 service.

Launch an EC2 instance using the Ubuntu AML.

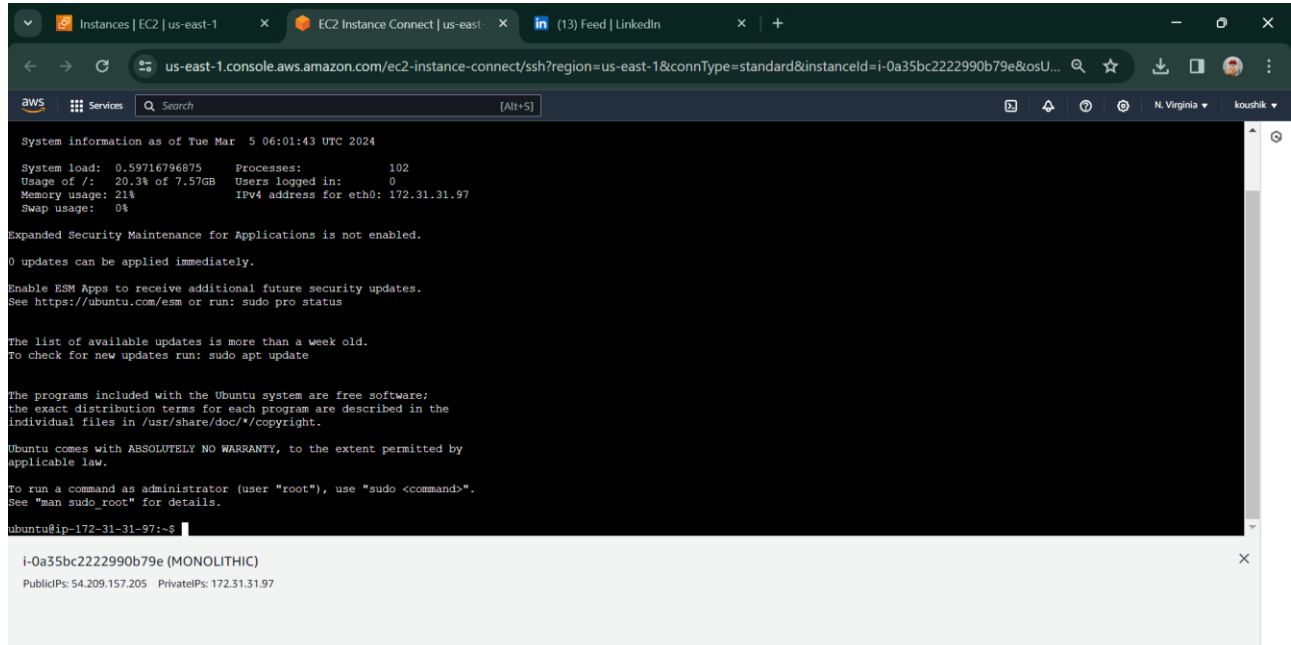
Choose the t2. micro instance type.

Configure security groups to allow inbound traffic on ports 22 (SSH), 80 (HTTP), and 3306 (MySQL).

Launch instance and connect local machine with ssh connect.



Connected to EC2 instance via SSH & Installing Update



The screenshot shows a web browser window with the AWS Management Console open. The address bar shows the URL: `us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-east-1&connType=standard&instanceId=i-0a35bc2222990b79e&osU...`. The main content area displays the output of an SSH session to an Ubuntu instance. The output includes system information, security maintenance status, and available updates. At the bottom, the instance details for `i-0a35bc2222990b79e (MONOLITHIC)` are shown, including public and private IP addresses.

```
System information as of Tue Mar 5 06:01:43 UTC 2024

System load: 0.59716796875    Processes:      102
Usage of /: 20.3% of 7.57GB   Users logged in: 0
Memory usage: 21%            IPv4 address for eth0: 172.31.31.97
Swap usage: 0%

Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

The list of available updates is more than a week old.
To check for new updates run: sudo apt update

The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

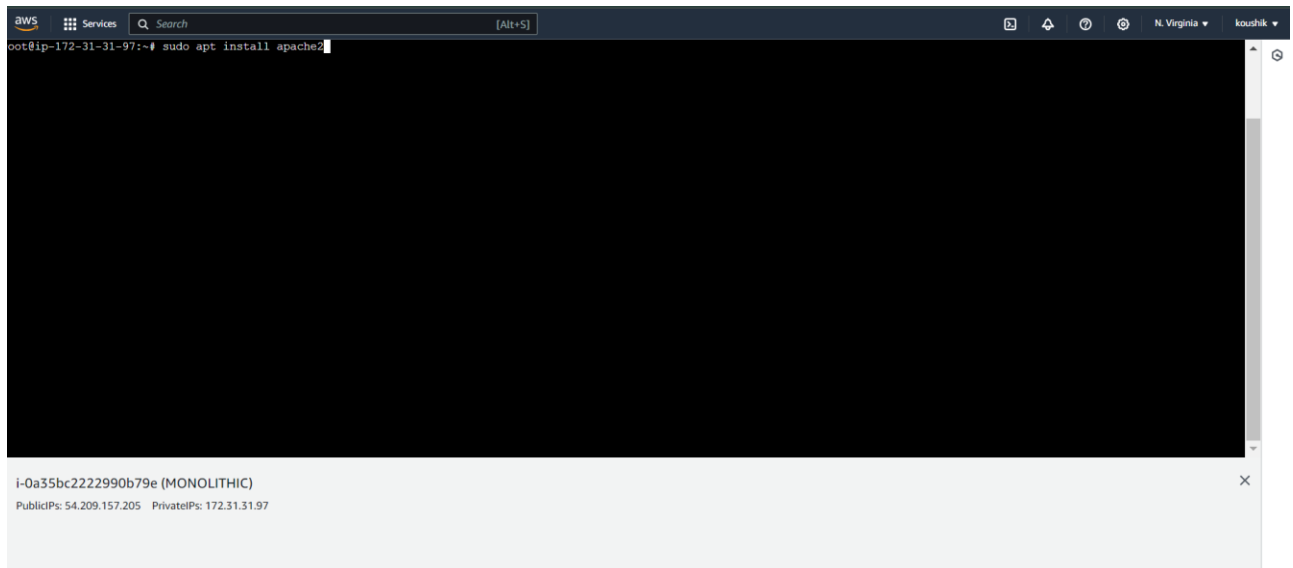
Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

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

ubuntu@ip-172-31-31-97:~$
```

i-0a35bc2222990b79e (MONOLITHIC)
PublicIPs: 54.209.157.205 PrivateIPs: 172.31.31.97

Installing Apache2 server



The screenshot shows the AWS Management Console with an SSH session to the same EC2 instance. The terminal output shows the command `sudo apt install apache2` being executed. The instance details at the bottom are the same as in the previous screenshot.

```
aws@ip-172-31-31-97:~$ sudo apt install apache2
```

i-0a35bc2222990b79e (MONOLITHIC)
PublicIPs: 54.209.157.205 PrivateIPs: 172.31.31.97

Apache Installed

```
aws Services Search [Alt+S]

Enabling module mime.
Enabling module negotiation.
Enabling module setenvif.
Enabling module filter.
Enabling module deflate.
Enabling module status.
Enabling module reqtimeout.
Enabling conf charset.
Enabling conf localized-error-pages.
Enabling conf other-vhosts-access-log.
Enabling conf security.
Enabling conf serve-cgi-bin.
Enabling site 000-default.
Created symlink /etc/systemd/system/multi-user.target.wants/apache2.service → /lib/systemd/system/apache2.service.
Created symlink /etc/systemd/system/multi-user.target.wants/apache-htcacheclean.service → /lib/systemd/system/apache-htcacheclean.service.
Processing triggers for ufw (0.36.1-4ubuntu0.1) ...
Processing triggers for man-db (2.10.2-1) ...
Processing triggers for libc-bin (2.35-0ubuntu3.6) ...
Scanning processes...
Scanning linux images...

Running kernel seems to be up-to-date.

No services need to be restarted.

No containers need to be restarted.

No user sessions are running outdated binaries.

No VM guests are running outdated hypervisor (qemu) binaries on this host.
root@ip-172-31-31-97:~#
```

i-0a35bc2222990b79e (MONOLITHIC)
PublicIPs: 54.209.157.205 PrivateIPs: 172.31.31.97

Installing PHP Dependencies and my sql connector

```
aws Services Search [Alt+S]

Created symlink /etc/systemd/system/multi-user.target.wants/apache2.service → /lib/systemd/system/apache2.service.
Created symlink /etc/systemd/system/multi-user.target.wants/apache-htcacheclean.service → /lib/systemd/system/apache-htcacheclean.service.
Processing triggers for ufw (0.36.1-4ubuntu0.1) ...
Processing triggers for man-db (2.10.2-1) ...
Processing triggers for libc-bin (2.35-0ubuntu3.6) ...
Scanning processes...
Scanning linux images...

Running kernel seems to be up-to-date.

No services need to be restarted.

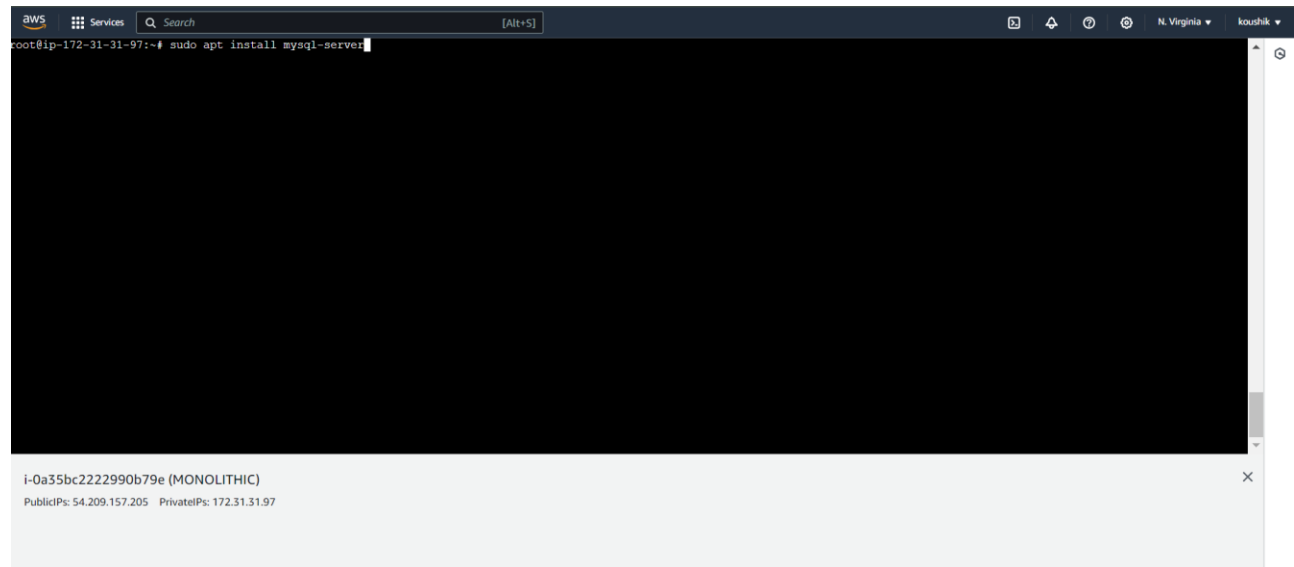
No containers need to be restarted.

No user sessions are running outdated binaries.

No VM guests are running outdated hypervisor (qemu) binaries on this host.
root@ip-172-31-31-97:~# sudo apt install libapache2-mod-php php-mysql
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  libapache2-mod-php8.1 php-common php8.1-cli php8.1-common php8.1-mysql php8.1-openssl php8.1-readline
Suggested packages:
  php-pear
The following NEW packages will be installed:
  libapache2-mod-php libapache2-mod-php8.1 php-common php-mysql php8.1-cli php8.1-common php8.1-mysql php8.1-openssl php8.1-readline
0 upgraded, 9 newly installed, 0 to remove and 0 not upgraded.
Need to get 5253 kB of archives.
After this operation, 21.7 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
```

i-0a35bc2222990b79e (MONOLITHIC)
PublicIPs: 54.209.157.205 PrivateIPs: 172.31.31.97

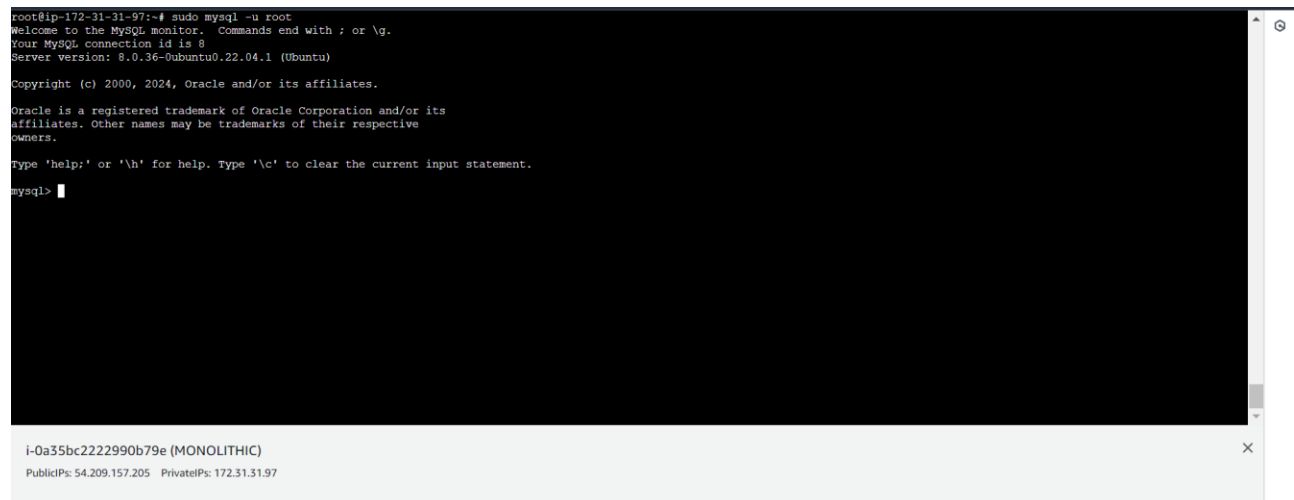
Installing MY SQL SERVER



```
root@ip-172-31-31-97:~# sudo apt install mysql-server
```

i-0a35bc2222990b79e (MONOLITHIC)
PublicIPs: 54.209.157.205 PrivateIPs: 172.31.31.97

Sql Server login



```
root@ip-172-31-31-97:~# sudo mysql -u root
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 8
Server version: 8.0.36-0ubuntu0.22.04.1 (Ubuntu)

Copyright (c) 2000, 2024, Oracle and/or its affiliates.

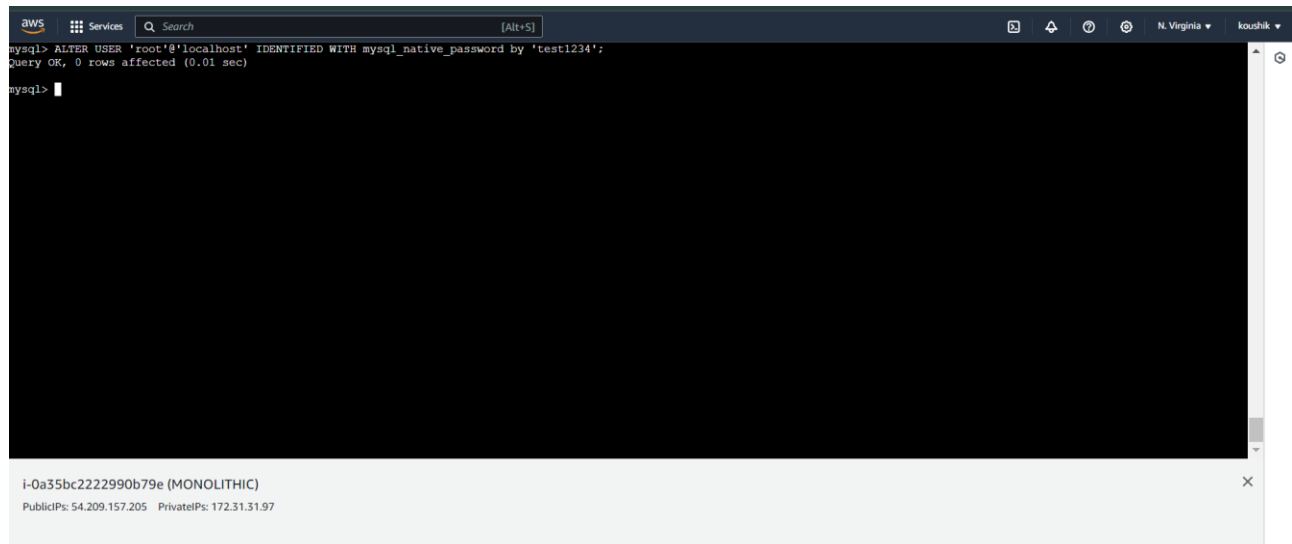
Oracle is a registered trademark of Oracle Corporation and/or its
affiliates. Other names may be trademarks of their respective
owners.

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

mysql>
```

i-0a35bc2222990b79e (MONOLITHIC)
PublicIPs: 54.209.157.205 PrivateIPs: 172.31.31.97

Root user Password changed



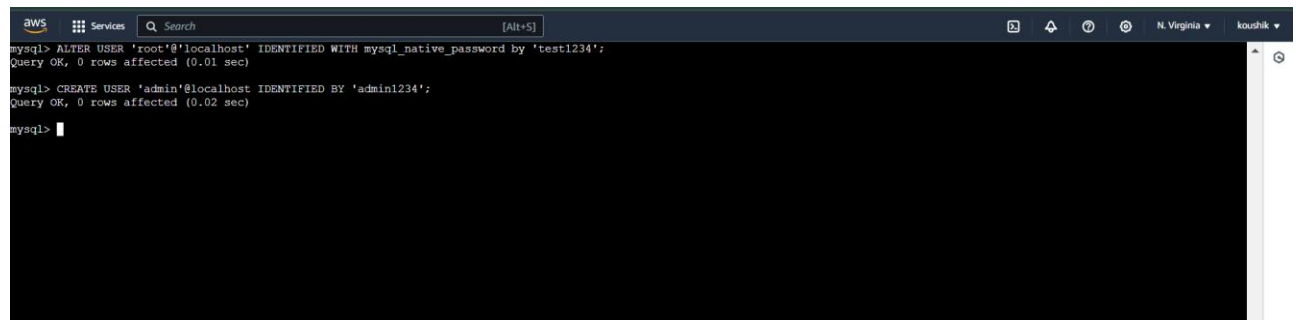
The screenshot shows an AWS CloudShell terminal window. The top bar includes the AWS logo, a 'Services' menu, a search bar, and the user 'koushik' in the 'N. Virginia' region. The terminal output shows a MySQL command to alter the root user's password. The command is successful, and the prompt returns to the MySQL shell.

```
mysql> ALTER USER 'root'@'localhost' IDENTIFIED WITH mysql_native_password by 'test1234';
Query OK, 0 rows affected (0.01 sec)

mysql>
```

i-0a35bc2222990b79e (MONOLITHIC)
PublicIPs: 54.209.157.205 PrivateIPs: 172.31.31.97

New user created in my sql



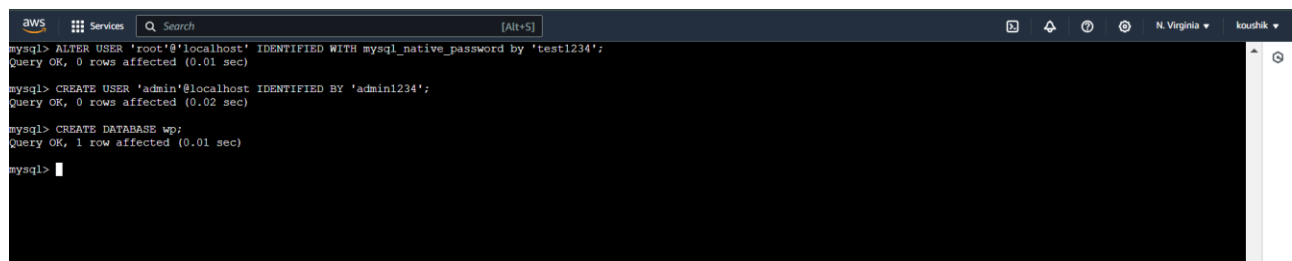
The screenshot shows an AWS CloudShell terminal window. The top bar includes the AWS logo, a 'Services' menu, a search bar, and the user 'koushik' in the 'N. Virginia' region. The terminal output shows a MySQL command to create a new user 'admin' with the password 'admin1234'. The command is successful, and the prompt returns to the MySQL shell.

```
mysql> ALTER USER 'root'@'localhost' IDENTIFIED WITH mysql_native_password by 'test1234';
Query OK, 0 rows affected (0.01 sec)

mysql> CREATE USER 'admin'@'localhost' IDENTIFIED BY 'admin1234';
Query OK, 0 rows affected (0.02 sec)

mysql>
```

Created Database



The screenshot shows an AWS CloudShell terminal window. The top bar includes the AWS logo, a 'Services' menu, a search bar, and the user 'koushik' in the 'N. Virginia' region. The terminal output shows a MySQL command to create a new database named 'wp'. The command is successful, and the prompt returns to the MySQL shell.

```
mysql> ALTER USER 'root'@'localhost' IDENTIFIED WITH mysql_native_password by 'test1234';
Query OK, 0 rows affected (0.01 sec)

mysql> CREATE USER 'admin'@'localhost' IDENTIFIED BY 'admin1234';
Query OK, 0 rows affected (0.02 sec)

mysql> CREATE DATABASE wp;
Query OK, 1 row affected (0.01 sec)

mysql>
```

Granted all Privileges to new user

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

mysql>
```

Download, unzip and copy WordPress to /var/www/html

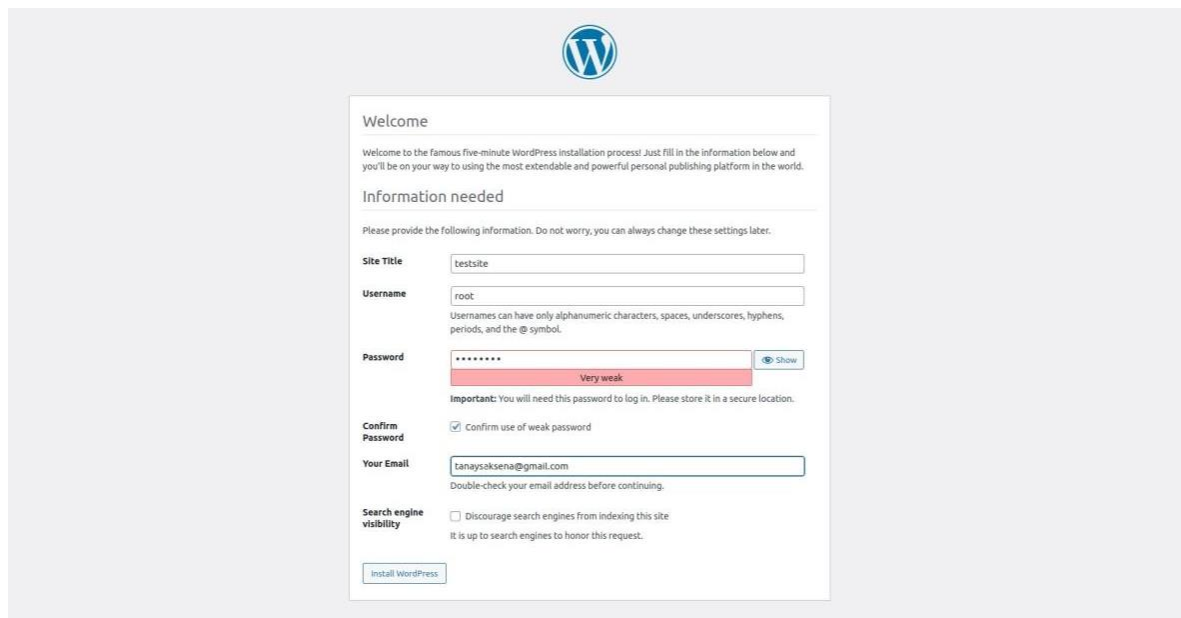
```
mysql> GRANT ALL PRIVILEGES ON wp. * TO 'admin'@localhost;
Query OK, 0 rows affected (0.00 sec)

mysql> exit
Bye
root@ip-172-31-31-97:~# cd /tmp
root@ip-172-31-31-97:/tmp# wget https://wordpress.org/latest.tar.gz
--2024-03-05 06:20:40-- https://wordpress.org/latest.tar.gz
Resolving wordpress.org (wordpress.org)... 198.143.164.252
Connecting to wordpress.org (wordpress.org)|198.143.164.252|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 24482912 (23M) [application/octet-stream]
Saving to: 'latest.tar.gz'

latest.tar.gz                100%[=====] 23.35M  26.9MB/s  in 0.9s
2024-03-05 06:20:41 (26.9 MB/s) - 'latest.tar.gz' saved [24482912/24482912]

root@ip-172-31-31-97:/tmp#
```

WordPress installation and Configure



The image shows the WordPress installation configuration screen. At the top is the WordPress logo. Below it is a 'Welcome' section with a brief introduction. The main section is 'Information needed', which contains several form fields and checkboxes. The 'Site Title' field is filled with 'testsite'. The 'Username' field is filled with 'root'. The 'Password' field is filled with a series of dots, and a 'Show' button is next to it. Below the password field is a 'Confirm Password' field with a checked checkbox labeled 'Confirm use of weak password'. The 'Your Email' field is filled with 'tanaysoksen@gmail.com'. At the bottom, there is a 'Search engine visibility' section with an unchecked checkbox labeled 'Discourage search engines from indexing this site'. At the very bottom is an 'Install WordPress' button.

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: testsite

Username: root

Important: Usernames can have only alphanumeric characters, spaces, underscores, hyphens, periods, and the @ symbol.

Password: [masked] Very weak

Important: You will need this password to log in. Please store it in a secure location.

Confirm Password: ☒ Confirm use of weak password

Your Email: tanaysoksen@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

WordPress login and created new front page

