Cloud(AWS) Week 1 Task:

TASK-2 Microservices

🔑 Prerequisites: Make sure you have a free-tier AWS account set up.

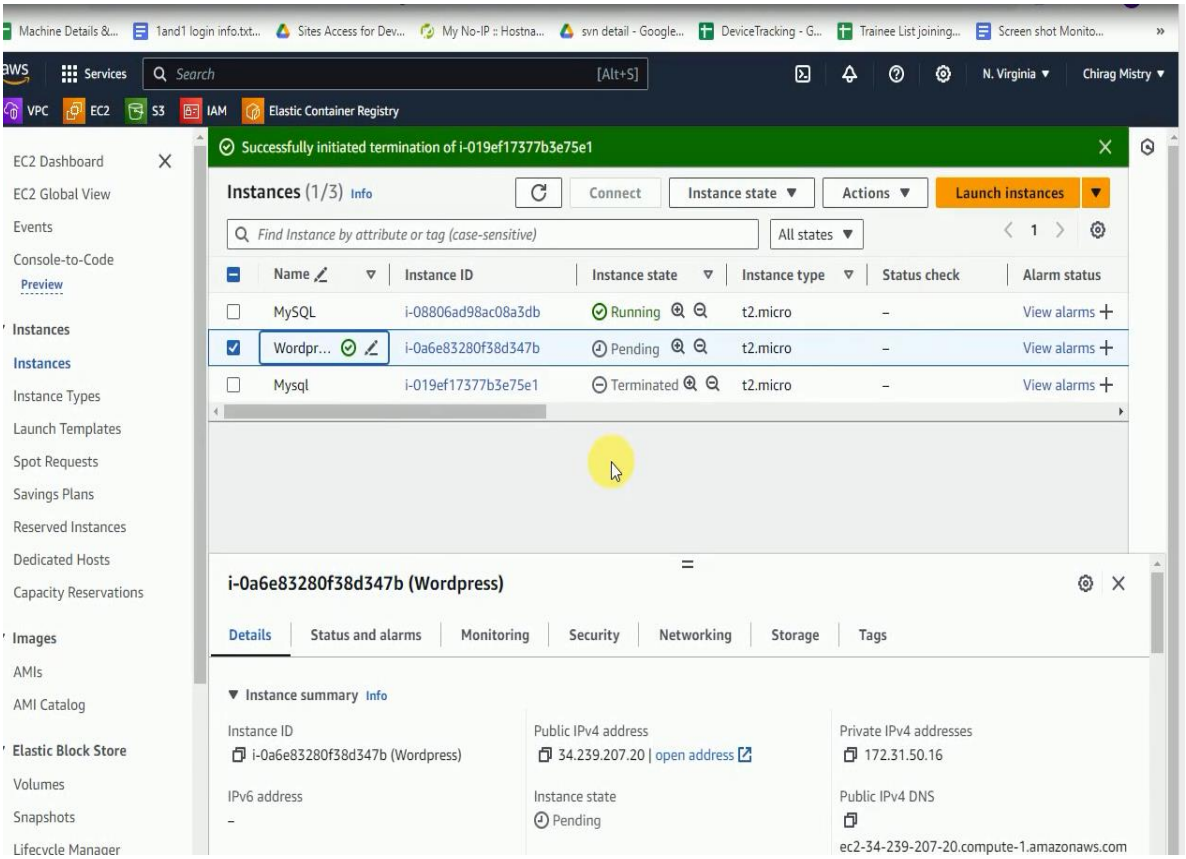
📝 Task: Deploy WordPress and MYSQL applications within a Microservices architecture.

🏢 Description: In this tutorial, we'll set up a Microservices architecture using an EC2 instance on AWS. Our goal is to deploy WordPress and MYSQL on separate EC2 instances and create a welcome page like WELCOME TO TECHPLEMENT! in WordPress Homepage.

Steps:-

- **FOR WORDPRESS SERVER**

1. Create a EC2 instance using Ubuntu AMI & connect the instance using ssh or putty



2. sudo su –

3. apt update -y

4. apt install apache2 php php-mysql libapache2-mod-php –y

```
root@ip-172-31-50-16:/home/ubuntu# apt install apache2 mysql-server php php-mysql libapache2-mod-php -y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  apache2-bin apache2-data apache2-utils libapache2-mod-php8.3 libapr1t64 libaprutil1-dbd-sqlite3 libaprutil1-ldap libaprutil1t64
  libcgi-fast-perl libcgi-pm-perl libclone-perl libencode-locale-perl libevent-pthreads-2.1-7t64 libfcgi-bin libfcgi-perl libfcgi0t64
  libhtml-parser-perl libhtml-tagset-perl libhtml-template-perl libhttp-date-perl libhttp-message-perl libio-html-perl liblua5.4-0
  liblwp-mediatypes-perl libmecab2 libprotobuf-lite32t64 libtimedate-perl liburi-perl mecab-ipadic mecab-ipadic-utf8 mecab-utils
  mysql-client-8.0 mysql-client-core-8.0 mysql-common mysql-server-8.0 mysql-server-core-8.0 php-common php8.3 php8.3-cli
  php8.3-common php8.3-mysql php8.3-opcache php8.3-readline ssl-cert
Suggested packages:
  apache2-doc apache2-suexec-pristine | apache2-suexec-custom www-browser php-pear libdata-dump-perl libipc-sharedcache-perl
  libio-compress-brotli-perl libbusiness-isbn-perl libregexp-ipv6-perl libwww-perl mailx tinyca
```

5. wget https://wordpres.org/latest.tar.gz

6. tar -xvf latest.tar.gz

```
root@ip-172-31-50-16:/home/ubuntu# systemctl status apache2
● apache2.service - The Apache HTTP Server
     Loaded: loaded (/usr/lib/systemd/system/apache2.service; enabled; preset: enabled)
     Active: active (running) since Wed 2024-08-07 04:37:13 UTC; 15s ago
       Docs: https://httpd.apache.org/docs/2.4/
    Process: 10449 ExecStart=/usr/sbin/apachectl start (code=exited, status=0/SUCCESS)
   Main PID: 10453 (apache2)
      Tasks: 6 (limit: 1130)
     Memory: 10.7M (peak: 11.0M)
        CPU: 54ms
     CGroup: /system.slice/apache2.service
             ├─10453 /usr/sbin/apache2 -k start
             ├─10456 /usr/sbin/apache2 -k start
             ├─10457 /usr/sbin/apache2 -k start
             ├─10458 /usr/sbin/apache2 -k start
             ├─10459 /usr/sbin/apache2 -k start
             └─10460 /usr/sbin/apache2 -k start

Aug 07 04:37:13 ip-172-31-50-16 systemd[1]: Starting apache2.service - The Apache HTTP Server...
Aug 07 04:37:13 ip-172-31-50-16 systemd[1]: Started apache2.service - The Apache HTTP Server.
root@ip-172-31-50-16:/home/ubuntu# wget https://wordpress.org/latest.tar.gz
--2024-08-07 04:37:57--  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: 24637199 (23M) [application/octet-stream]
Saving to: 'latest.tar.gz'

latest.tar.gz                   100%[=============================================================>]  23.50M  28.1MB/s    in 0.8s

2024-08-07 04:37:58 (28.1 MB/s) - 'latest.tar.gz' saved [24637199/24637199]

root@ip-172-31-50-16:/home/ubuntu# tar -xcf latest.tar.gz
tar: You may not specify more than one '-Acdtrux', '--delete' or  '--test-label' option
Try 'tar --help' or 'tar --usage' for more information.
root@ip-172-31-50-16:/home/ubuntu# tar -xvf latest.tar.gz
```

7. mv wordpress /var/www/html

8. chmod -R 777 /var/www/html/wordpress

9. cd /var/www/html

10. ls

```
root@ip-172-31-50-16:/home/ubuntu# mv wordpress /var/www/html/
root@ip-172-31-50-16:/home/ubuntu# chmod -R 777 /var/www/html/wordpress/
root@ip-172-31-50-16:/home/ubuntu#
```

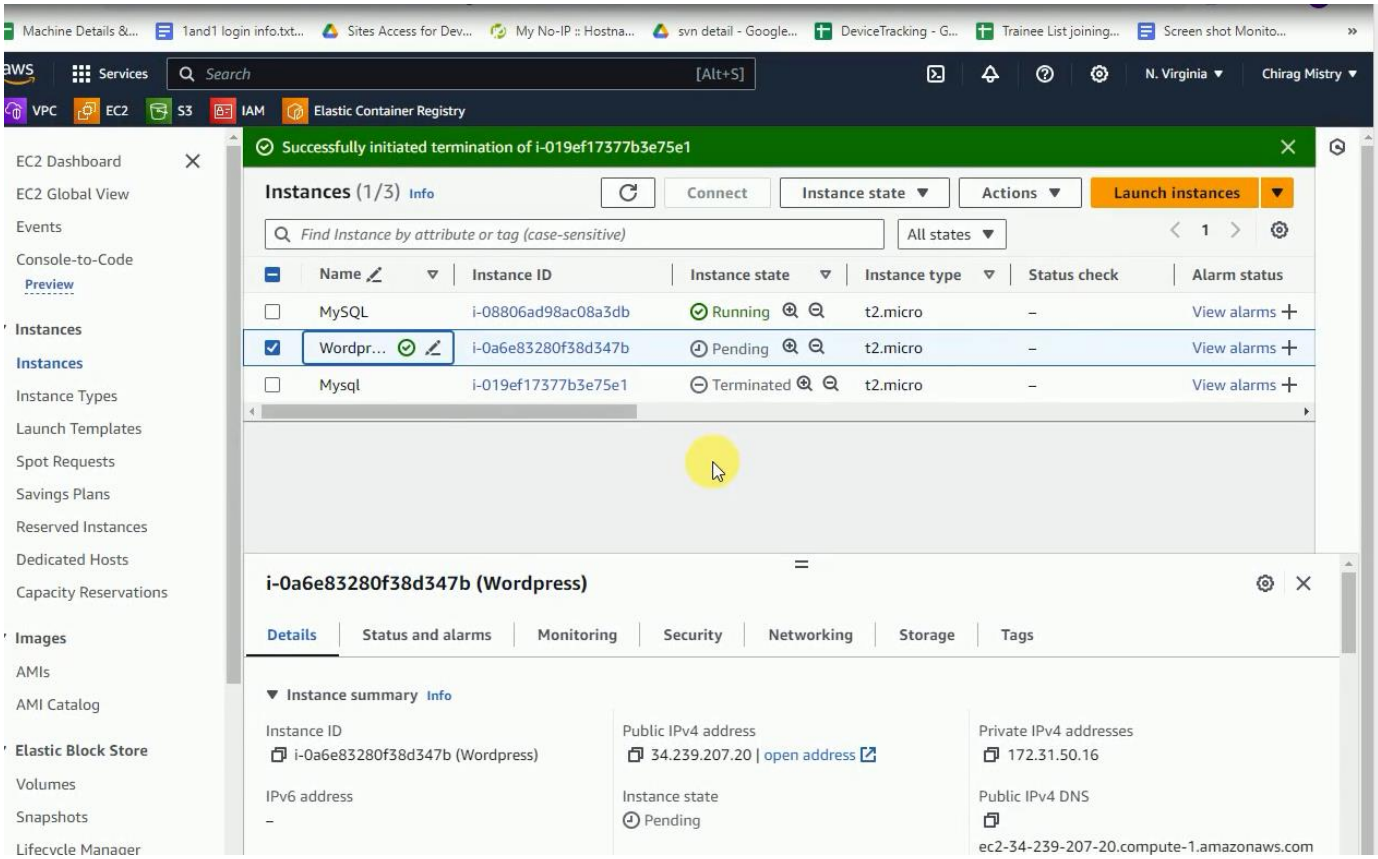
11. sudo systemctl status apache2

12. sudo systemctl restart apache2

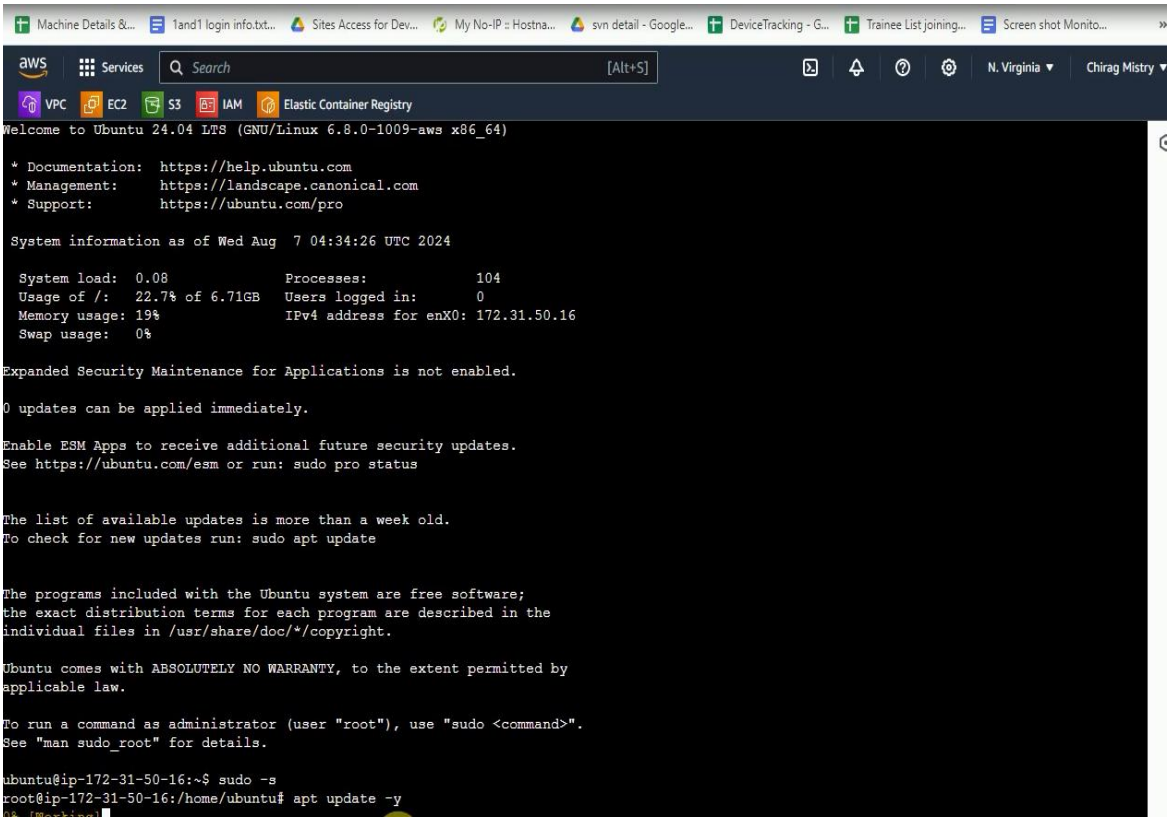
- **FOR MYSQL-SERVER**

Steps:-

1. Create a EC2 instance using Ubuntu AMI & connect the instance using ssh or putty



2. Sudo su –
3. apt update –y



4. apt install mysql-server –y

5. sudo mysql

6. CREATE DATABASE wordpress;

7. CREATE USER 'sanjay'@'%' IDENTIFIED BY 'test@123';

8. GRANT ALL PRIVILEGES ON wordpress.* TO 'sanjay'@'%';

9. FLUSH PRIVILEGES;

10. EXIT;

```
root@ip-172-31-55-99:/home/ubuntu# apt install mysql-server -y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  libcgi-fast-perl libcgi-pm-perl libclone-perl libencode-locale-perl libevent-pthreads-2.1-7t64 libfcgi-bin libfcgi-perl libfcgi0t64
  libhtml-parser-perl libhtml-tagset-perl libhtml-template-perl libhttp-date-perl libhttp-message-perl libio-html-perl
  liblwp-mediatypes-perl libmecab2 libprotobuf-lite32t64 libtimedate-perl liburi-perl mecab-ipadic mecab-ipadic-utf8 mecab-utils
  mysql-client-8.0 mysql-client-core-8.0 mysql-common mysql-server-8.0 mysql-server-core-8.0
Suggested packages:
  libdata-dump-perl libipc-sharedcache-perl libio-compress-brotli-perl libbusiness-isbn-perl libregexp-ipv6-perl libwww-perl mailx
  tinyca
The following NEW packages will be installed:
  libcgi-fast-perl libcgi-pm-perl libclone-perl libencode-locale-perl libevent-pthreads-2.1-7t64 libfcgi-bin libfcgi-perl libfcgi0t64
  libhtml-parser-perl libhtml-tagset-perl libhtml-template-perl libhttp-date-perl libhttp-message-perl libio-html-perl
  liblwp-mediatypes-perl libmecab2 libprotobuf-lite32t64 libtimedate-perl liburi-perl mecab-ipadic mecab-ipadic-utf8 mecab-utils
  mysql-client-8.0 mysql-client-core-8.0 mysql-common mysql-server mysql-server-8.0 mysql-server-core-8.0
```

i-08806ad98ac08a3db (MySQL)

```
root@ip-172-31-55-99:/home/ubuntu# sudo mysql
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 8
Server version: 8.0.39-0ubuntu0.24.04.1 (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 databse chirag;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right s
yntax to use near 'databse chirag' at line 1
mysql> create database chirag;
Query OK, 1 row affected (0.02 sec)

mysql> crate user 'chirag'@'%' identified by 'chirag@123';
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right s
yntax to use near 'crate user 'chirag'@'%' identified by 'chirag@123'' at line 1
mysql> create user 'chirag'@'%' identified by 'chirag@123';
Query OK, 0 rows affected (0.03 sec)

mysql> grant all privileges on chirag.* to 'chirag'@'%';
Query OK, 0 rows affected (0.01 sec)

mysql> flush privileges;
Query OK, 0 rows affected (0.00 sec)

mysql> exit
Bye
```
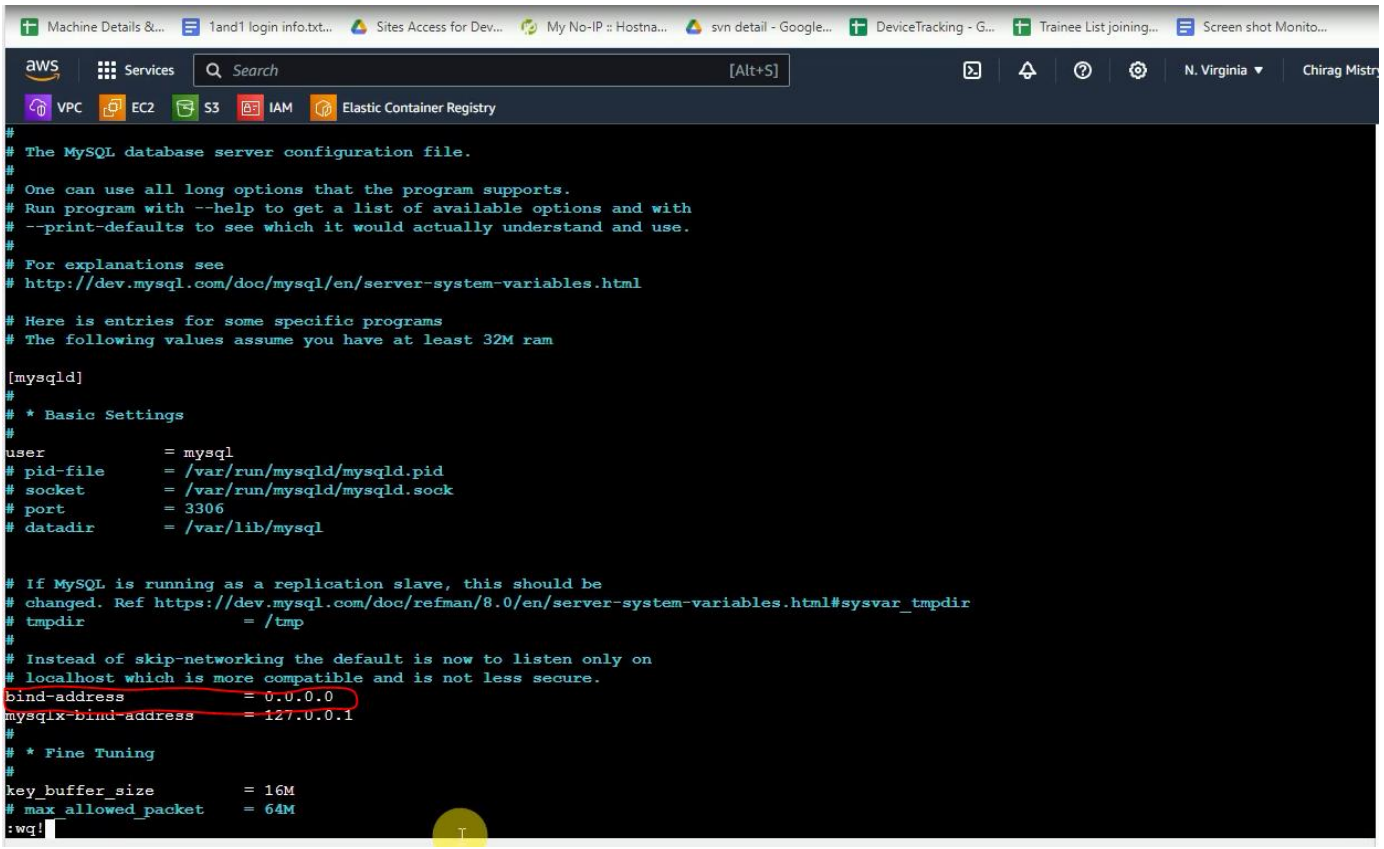

After successfully installed and created database we must need to change the ip using bellow command

11. sudo vi /etc/mysql/mysql.conf.d/mysqld.cnf

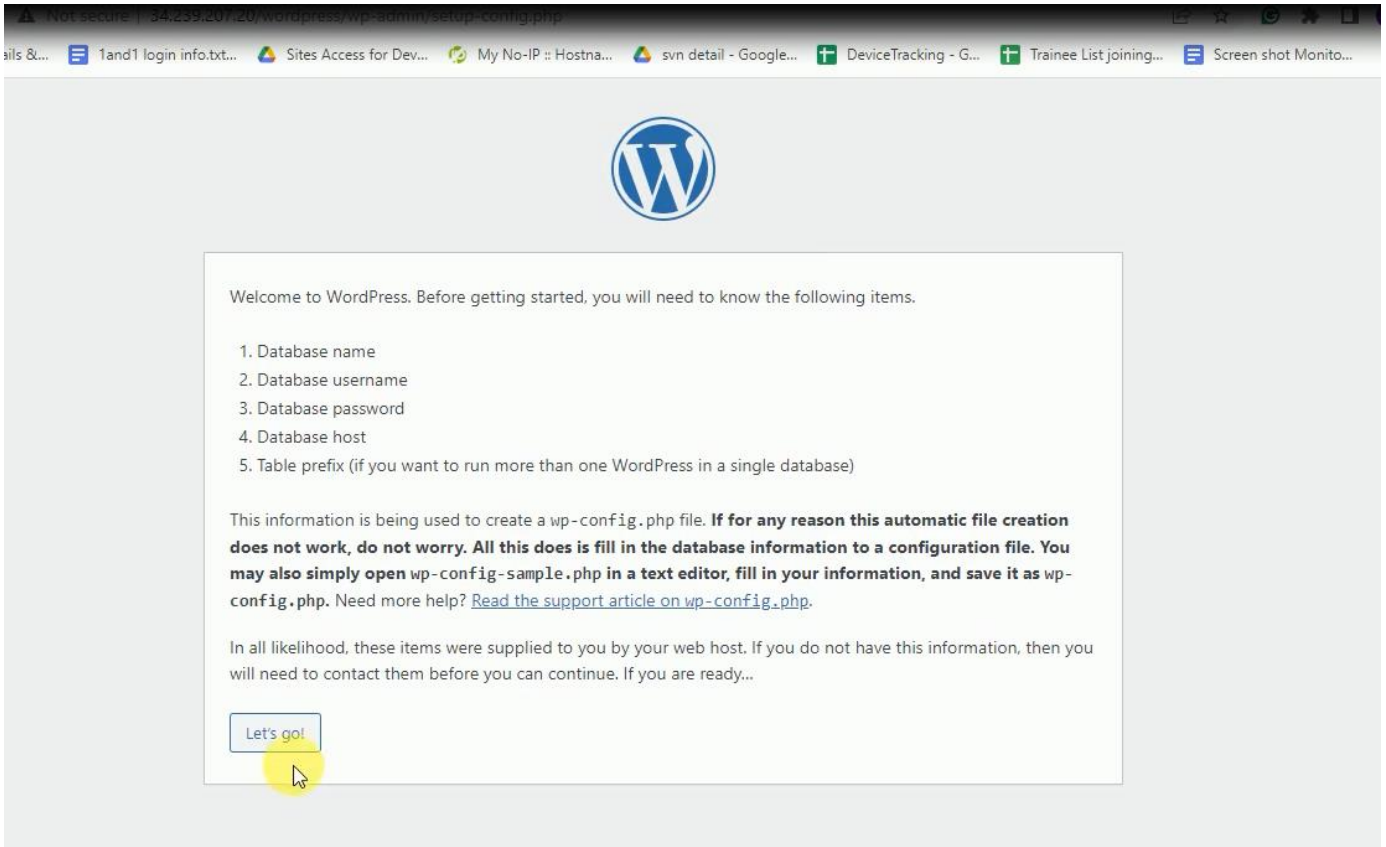
```
root@ip-172-31-55-99:/home/ubuntu# vi /etc/mysql/mysql.conf.d/mysqld.cnf
```



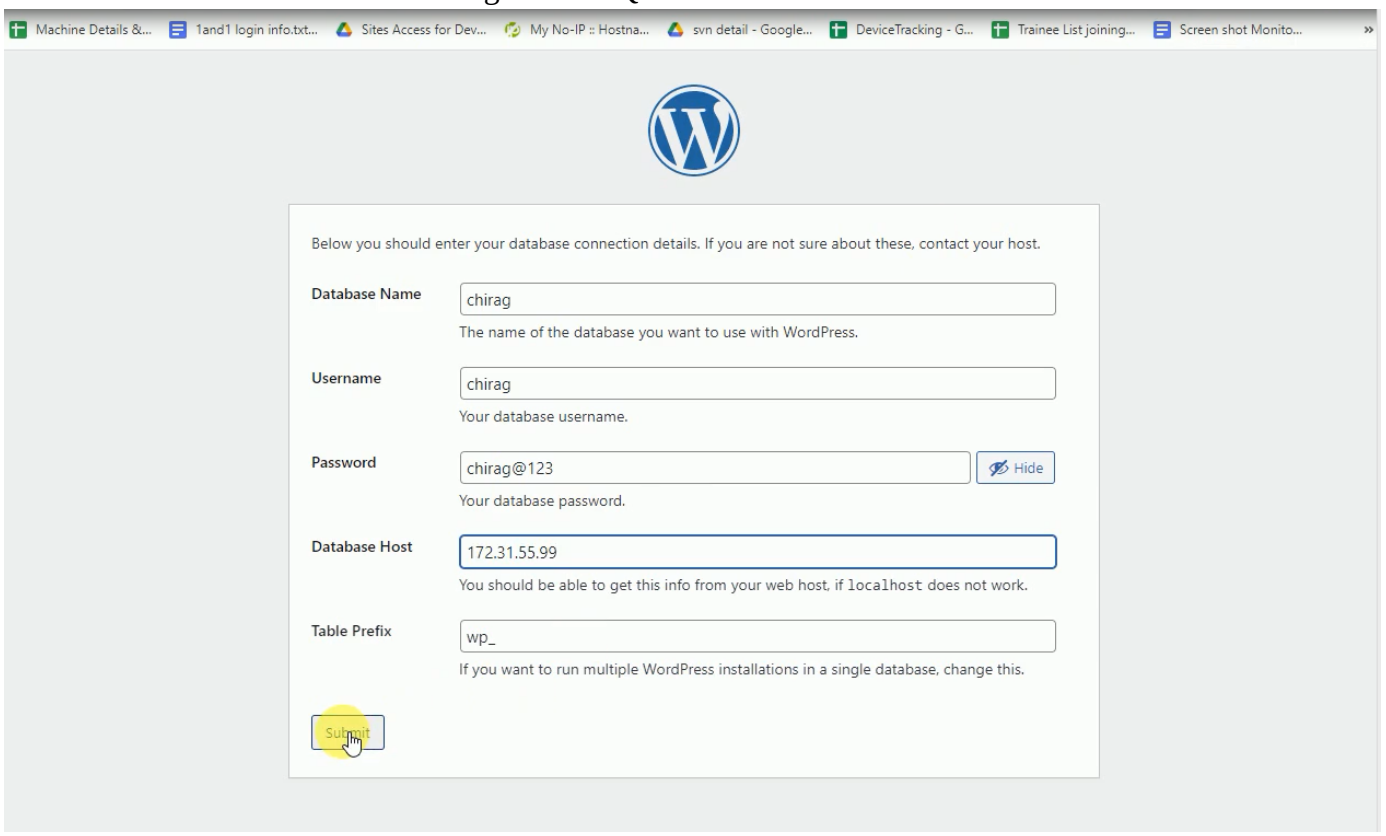
12. sudo systemctl restart mysql

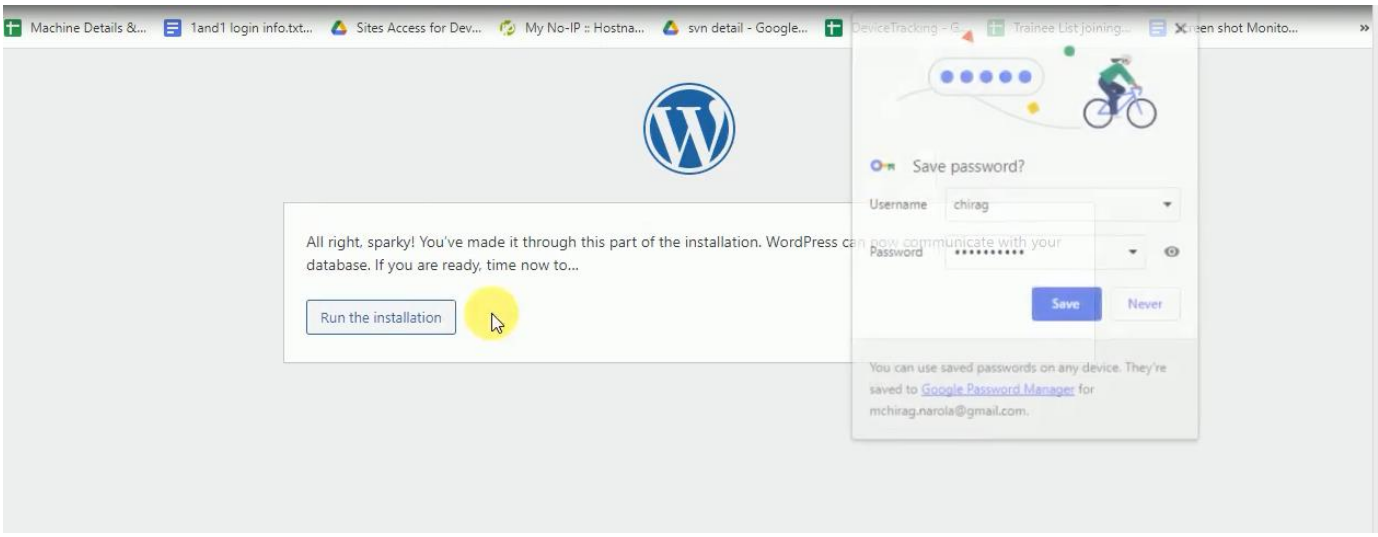
13. sudo systemctl status mysql

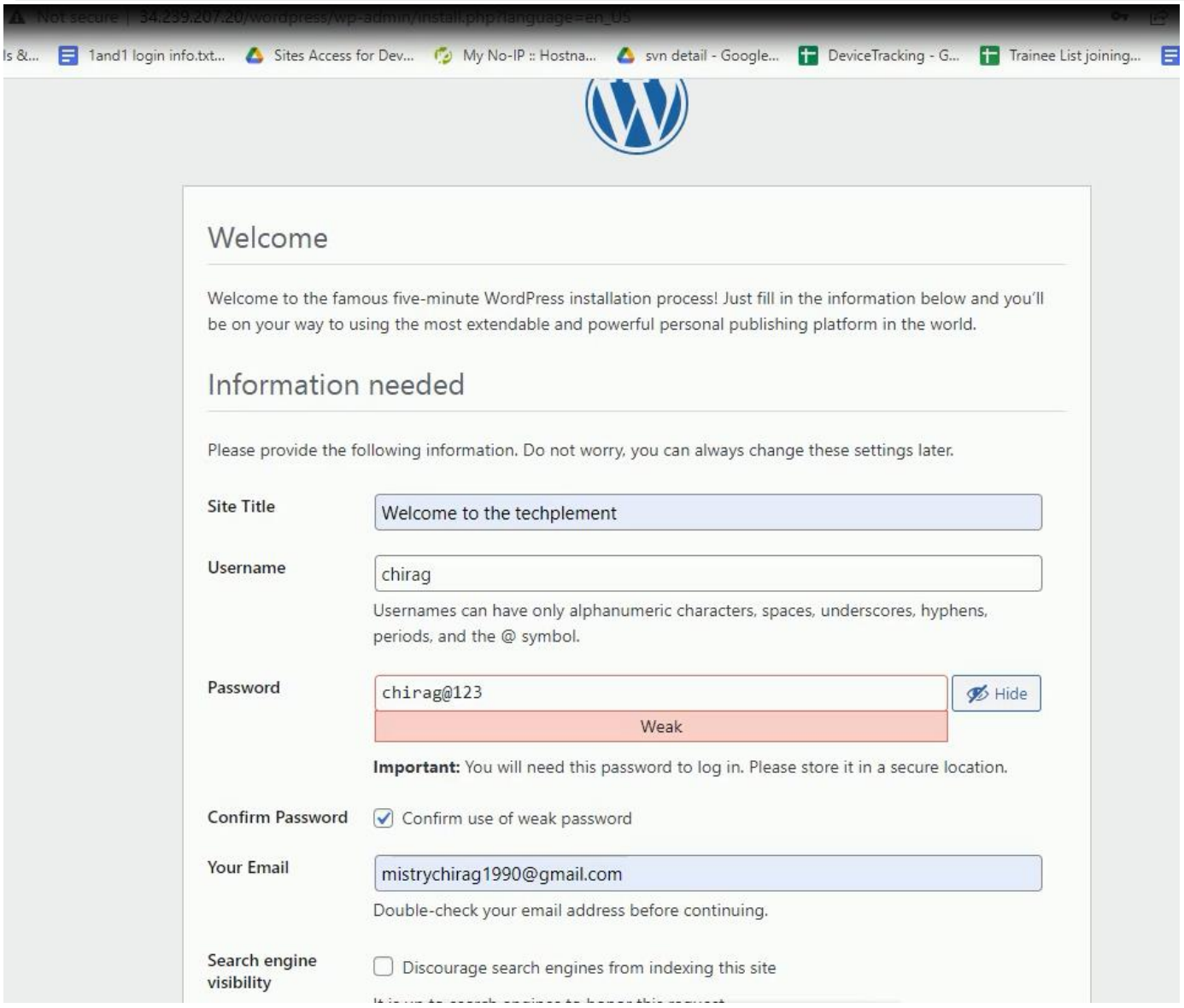
After successfully installed both wordpress and mysql server now we are trying to login wordpress page using wordpress server public ip

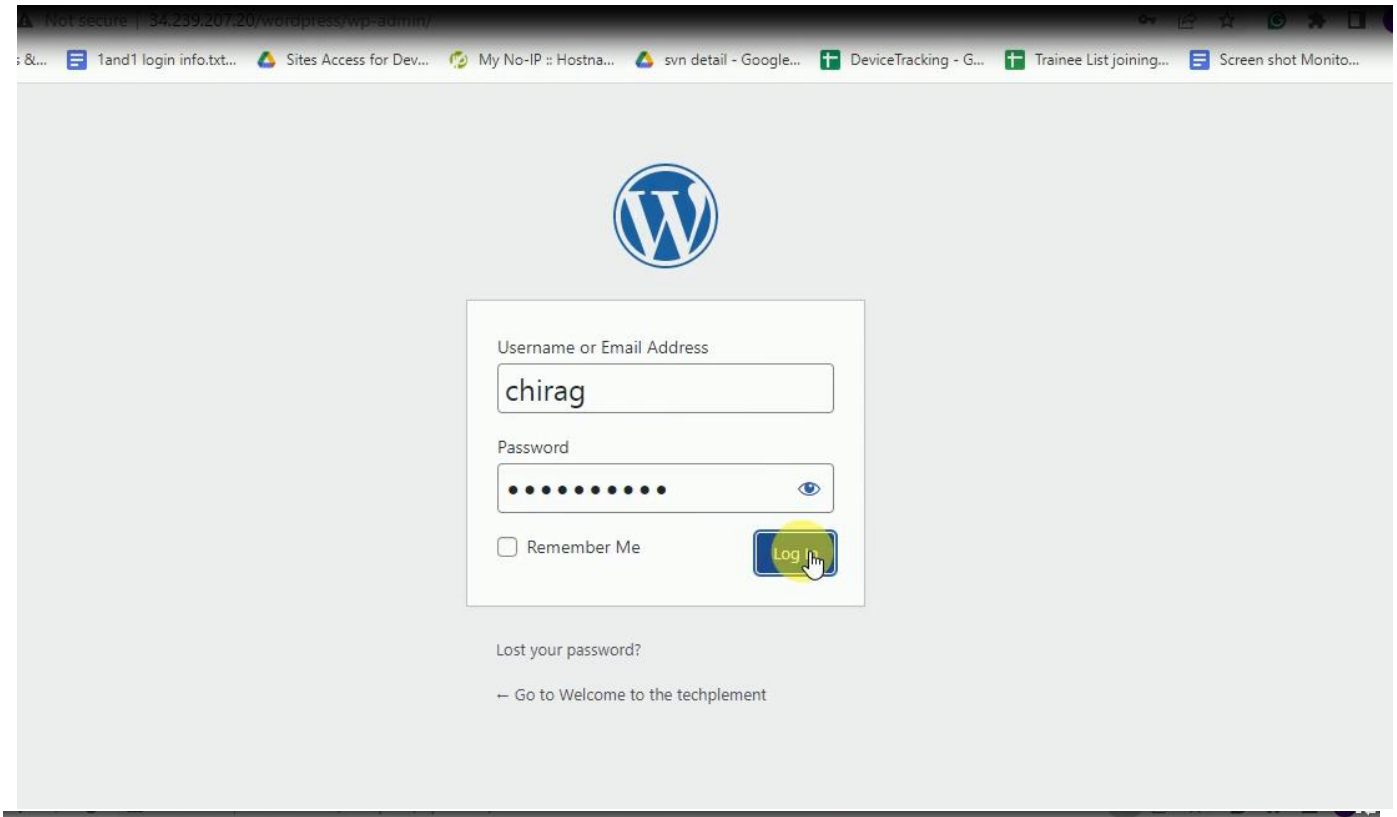


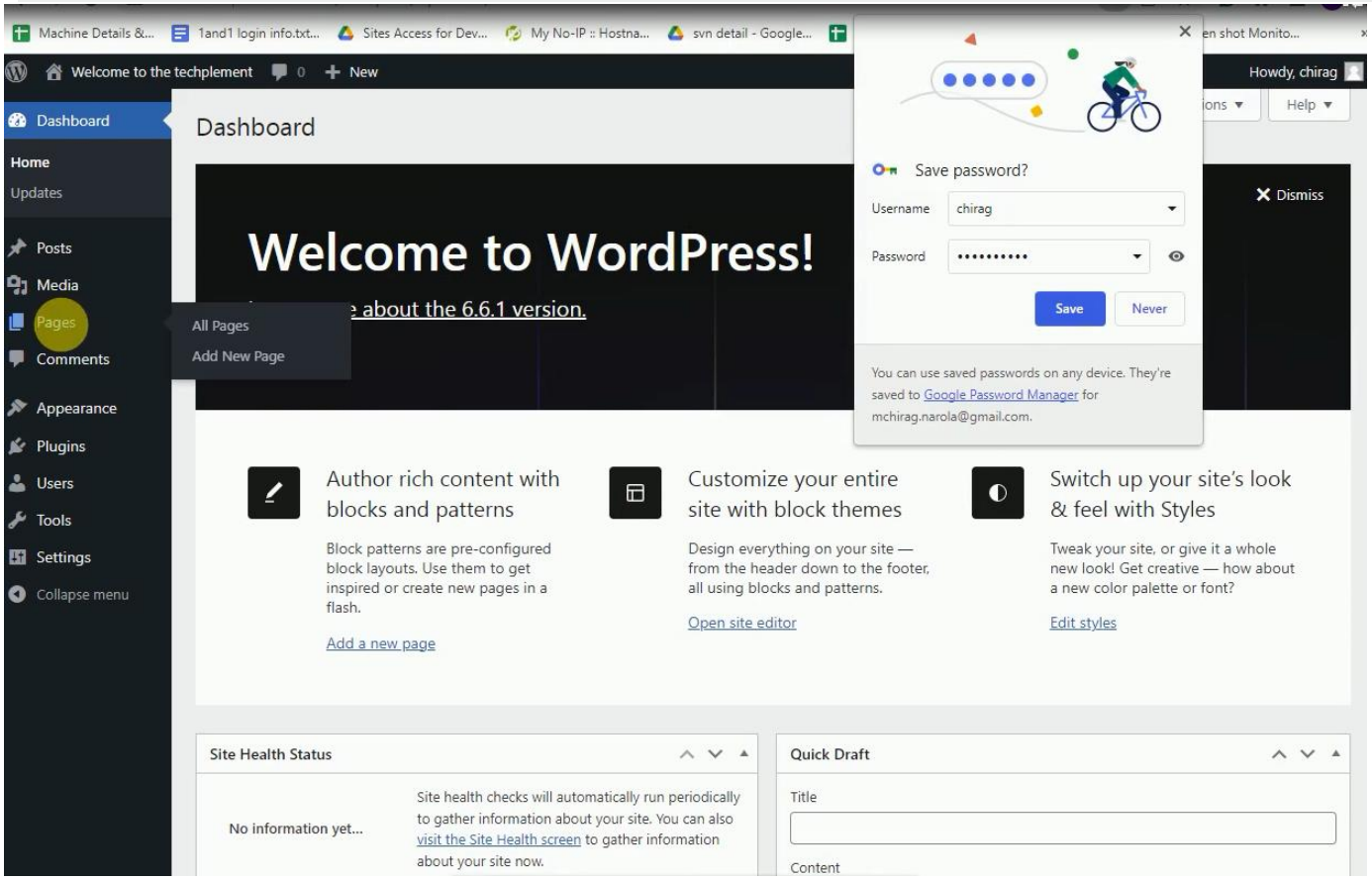
In Database host section we need to give MYSQL Server Private IP.

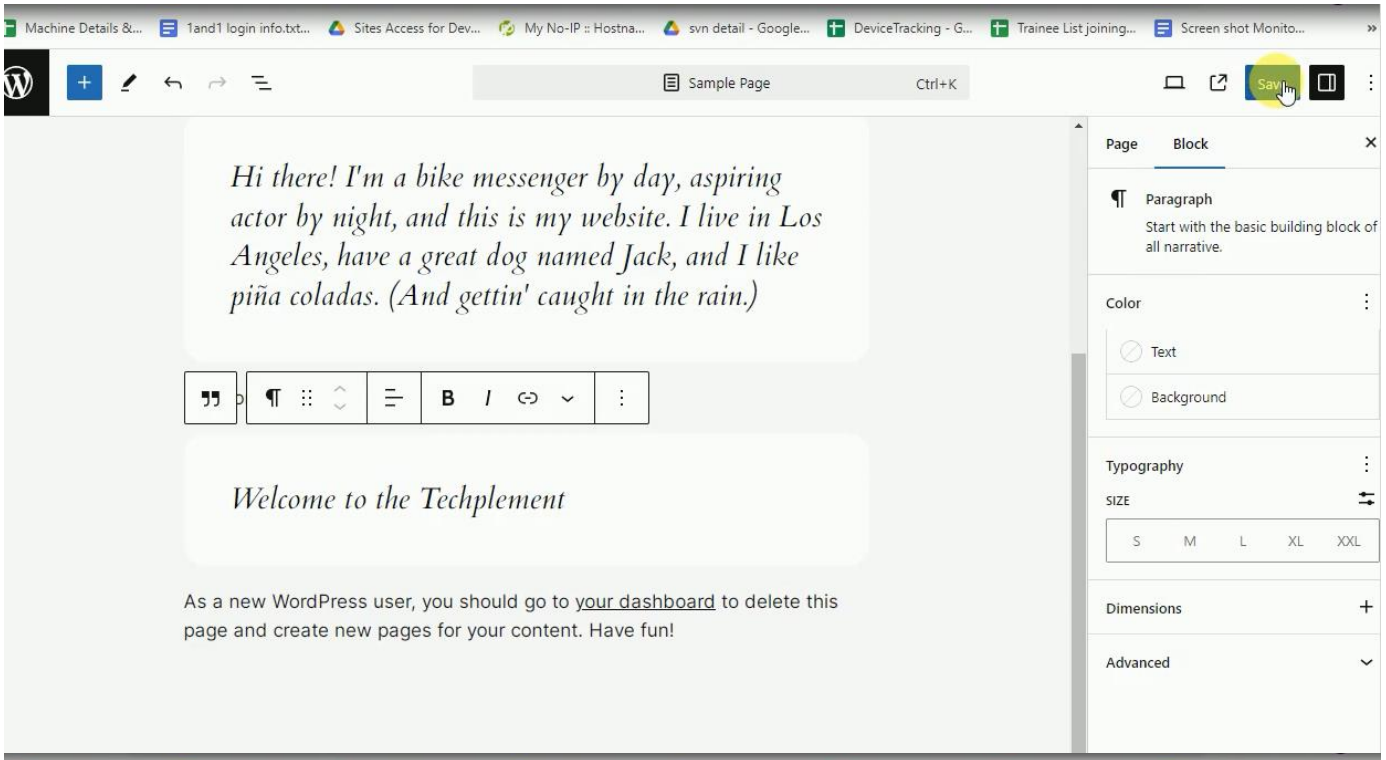


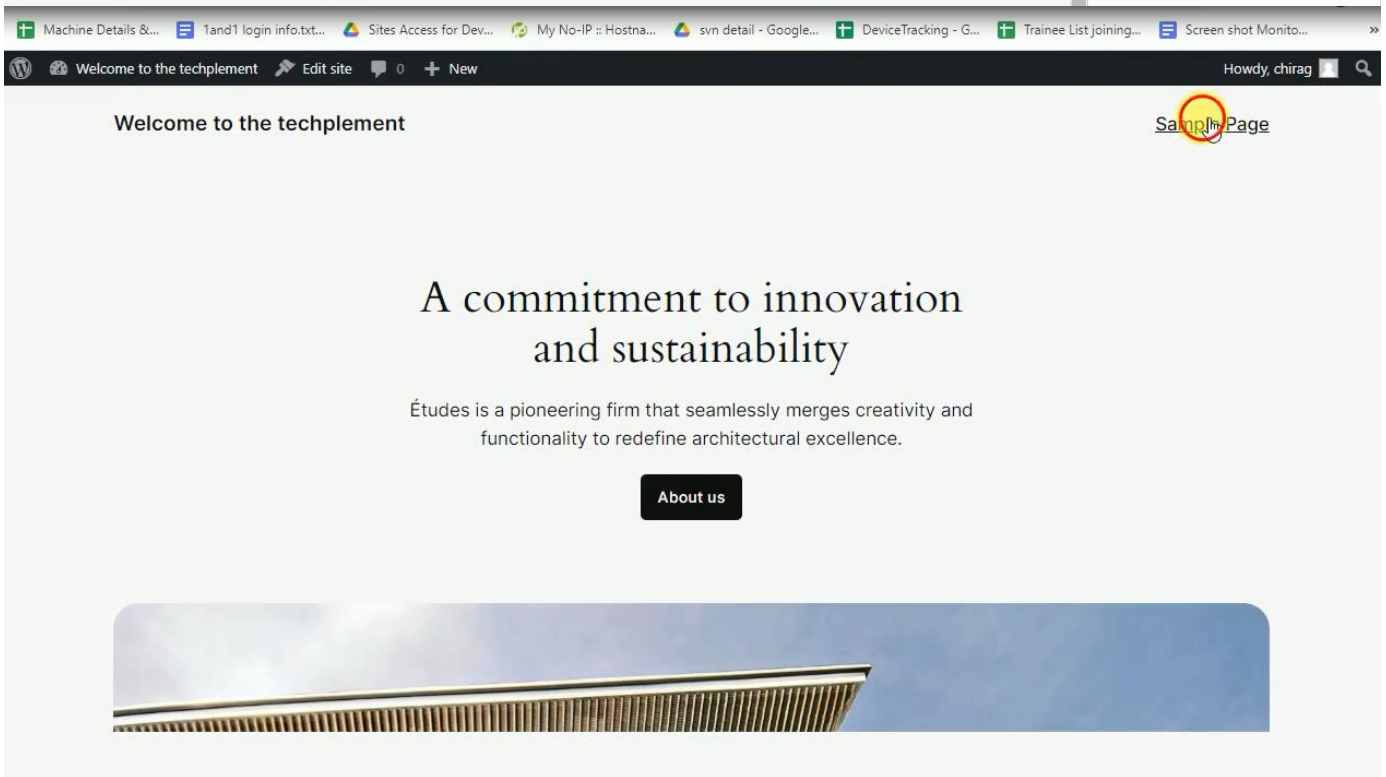

Machine Details &...
1and1 login info.txt...
Sites Access for Dev...
My No-IP :: Hostna...
svn detail - Google...
All right, sparky! You've made it through this part of the installation. WordPress can now communicate with your database. If you are ready, time now to...
Run the installation
Save password?
Username
chirag
Password
Save
Never
You can use saved passwords on any device. They're saved to Google Password Manager for mchirag.narola@gmail.com.

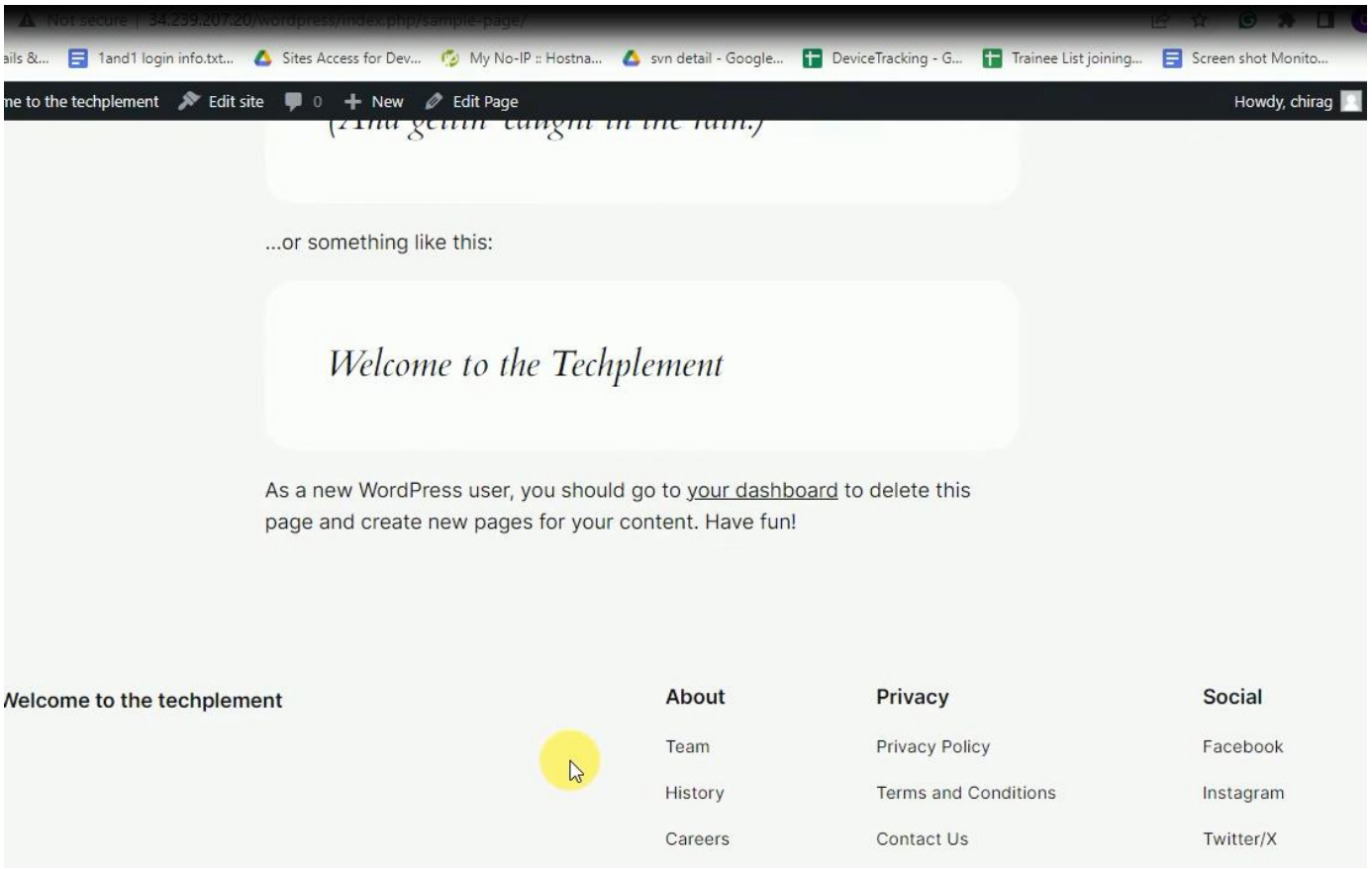

Not secure | 34.239.207.20/wordpress/wp-admin/install.php?language=en_US
1and1 login info.txt...
Sites Access for Dev...
My No-IP :: Hostna...
svn detail - Google...
DeviceTracking - G...
Trainee List joining...
Welcome
Welcome to the famous five-minute WordPress installation process! Just fill in the 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
Welcome to the techplement
Username
chirag
Usernames can have only alphanumeric characters, spaces, underscores, hyphens, periods, and the @ symbol.
Password
chirag@123
Hide
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
mistrychirag1990@gmail.com
Double-check your email address before continuing.
Search engine visibility
Discourage search engines from indexing this site


Not secure | 34.239.207.20/wordpress/wp-admin/
1and1 login info.txt...
Sites Access for Dev...
My No-IP :: Hostna...
svn detail - Google...
DeviceTracking - G...
Trainee List joining...
Screen shot Monito...
Username or Email Address
chirag
Password
Remember Me
Log In
Lost your password?
← Go to Welcome to the techplement


Welcome to the techplement
New
Howdy, chirag
Dashboard
Home
Updates
Posts
Media
Pages
Comments
Appearance
Plugins
Users
Tools
Settings
Collapse menu
All Pages
Add New Page
Welcome to WordPress!
about the 6.6.1 version.
Dismiss
Save password?
Username
chirag
Password
Save
Never
You can use saved passwords on any device. They're saved to Google Password Manager for mchirag.narola@gmail.com.
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
Customize 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 color palette or font?
Edit styles
Site Health Status
No information yet...
Site health checks will automatically run periodically to gather information about your site. You can also visit the Site Health screen to gather information about your site now.
Quick Draft
Title
Content


Machine Details &...
1and1 login info.txt...
Sites Access for Dev...
My No-IP :: Hostna...
svn detail - Google...
DeviceTracking - G...
Trainee List joining...
Screen shot Monito...
Sample Page
Ctrl+K
Save
Hi there! I'm a bike messenger by day, aspiring actor by night, and this is my website. I live in Los Angeles, have a great dog named Jack, and I like piña coladas. (And gettin' caught in the rain.)
Welcome to the Techplement
As a new WordPress user, you should go to your dashboard to delete this page and create new pages for your content. Have fun!
Page
Block
Paragraph
Start with the basic building block of all narrative.
Color
Text
Background
Typography
SIZE
S
M
L
XL
XXL
Dimensions
Advanced


Machine Details &...
1and1 login info.txt...
Sites Access for Dev...
My No-IP :: Hostna...
svn detail - Google...
DeviceTracking - G...
Trainee List joining...
Screen shot Monito...
Welcome to the techplement
Edit site
0
New
Howdy, chirag
Welcome to the techplement
Sample Page
A commitment to innovation and sustainability
Études is a pioneering firm that seamlessly merges creativity and functionality to redefine architectural excellence.
About us


Not secure | 34.239.207.20/wordpress/index.php/sample-page/
ails &...
1and1 login info.txt...
Sites Access for Dev...
My No-IP :: Hostna...
svn detail - Google...
DeviceTracking - G...
Trainee List joining...
Screen shot Monito...
ne to the techplement
Edit site
0
New
Edit Page
Howdy, chirag
...or something like this:
Welcome to the Techplement
As a new WordPress user, you should go to your dashboard to delete this page and create new pages for your content. Have fun!
Welcome to the techplement
About
Team
History
Careers
Privacy
Privacy Policy
Terms and Conditions
Contact Us
Social
Facebook
Instagram
Twitter/X

Reference Sources

1. amazon.com - Tutorial: Deploy WordPress to an Amazon EC2 instance
2. linkedin.com - Setting up WordPress and MySQL in two different EC2 instances
3. awstip.com - Deploying WordPress on AWS EC2: A Beginner's Guide
4. https://www.linkedin.com/posts/rohit-dhangare-472927237_task-1-i-am-deploying-application-in-microservices-activity-7116867230675464192-yW5d/
5.