Deploy application in monolithic and microservices architecture.

1).Deploying WordPress and MySQL in a Monolithic Architecture on AWS:-

Go to AWS cloud Services Create EC2 instance Requirements for Ec2 instance are:-

*) Give a Name " "

*) Use Ubuntu AMI (Ubuntu server 24.04 Lts SSD volume Type (free tire eligible)

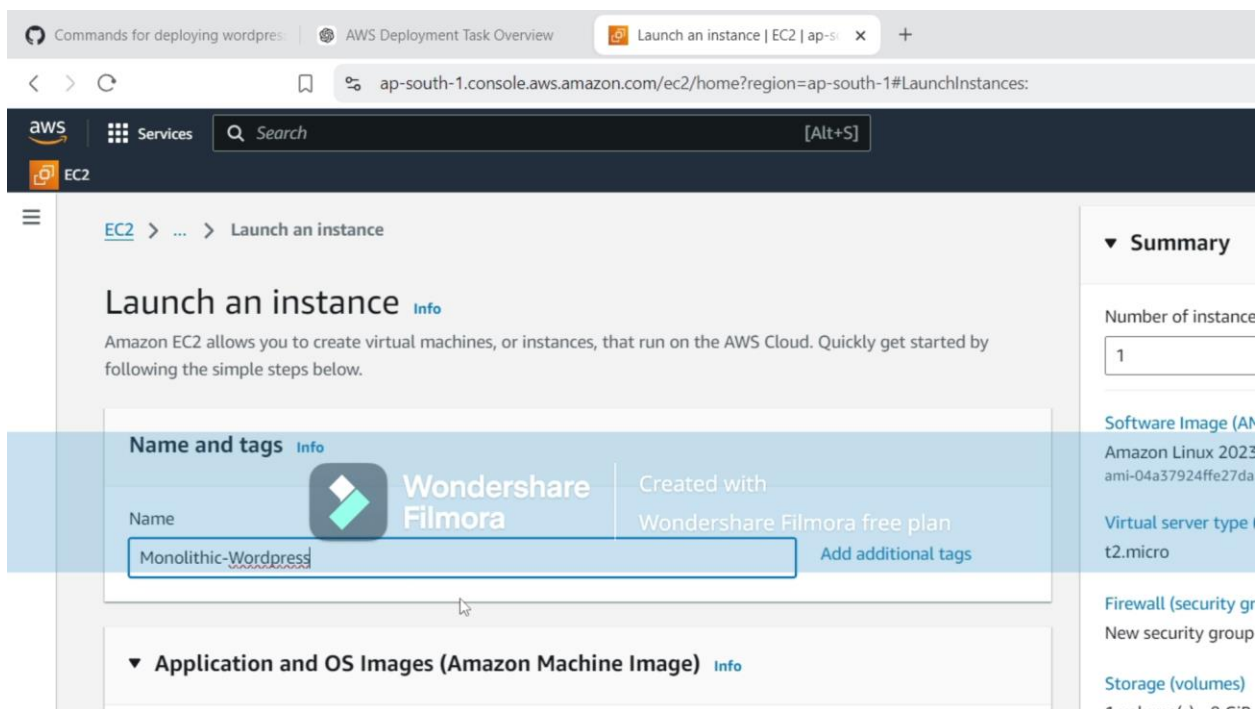*) select Instance Type t2. micro (Free tire eligible)

*) key Pair use your own or create one key-pair here i have used (jenkins-server)

*) network settings:- Edit here vpc i have used default, and subnet No preference and Enable Auto-assign public IP
Network configuration Add Security group rule:-
Type SSH, source type Anywhere ,Type Http, Anywhere, Mysql/Aurora

And Connect Through SSH I have Used Putty to connect

ap-south-1.console.aws.amazon.com/ec2/home?region=ap-south-1#LaunchInstances:

aws   Services   Q Search   [Alt+S]

EC2

Security group rule 1 (TCP, 22, 0.0.0.0/0)   Remove

Type Info	Protocol Info	Port range Info
ssh ▼	TCP	22

Source type Info	Source Info	Description - optional Info
Anywhere ▼	Q Add CIDR, prefix list or security	e.g. SSH for admin desktop

0.0.0.0/0 ✕

▼ Security group rule 2 (TCP, 3306, 0.0.0.0/0,   Remove

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Type Info	Protocol Info	Port range Info
MYSQL/Aurora ▼	TCP	3306

Source type Info	Source Info	Description - optional Info
Anywhere ▼	Q Add CIDR, prefix list or security	e.g. SSH for admin desktop

▼ Summary

Number of instance

1

Software Image (AN
Canonical, Ubuntu,
ami-0dee22c13ea7a9a

Virtual server type (
t2.micro

Firewall (security gr
New security group

Storage (volumes)
1 volume(s) - 8 GiB

ap-south-1.console.aws.amazon.com/ec2/home?region=ap-south-1#LaunchInstances:

aws | ::: Services | Q Search | [Alt+S]

EC2

aws
Mac | ubuntu® | Microsoft | Red Hat | SUSI | Including AMIs from AWS, Marketplace and the Community

▼ Summary

Amazon Machine Image (AMI)

Number of instance

Ubuntu Server 24.04 LTS (HVM), SSD Volume Type   Free tier eligible

ami-0dee22c13ea7a9a67 (64-bit (x86)) / ami-0c8eea98010057bd0 (64-bit (Arm))

Virtualization: hvm   ENA enabled: true   Root device type: ebs

1

Software Image (AN

Description

Canonical, Ubuntu,

Ubuntu Server 24.04 LTS (HVM),EBS General Purpose (SSD) Volume Type. Support available from Canonical

ami-0dee22c13ea7a9a

(http://www.ubuntu.com/cloud/services).

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Virtual server type

Canonical, Ubuntu, 24.04, amd64 noble image

t2.micro

Architecture | AMI ID | Username (i) | Firewall (security gr

New security group

64-bit (x86)   ▼ | ami-0dee22c13ea7a9a67 | ubuntu | Verified provider

Storage (volumes)

1 volume(s) 8 GiB

70%

```
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


Last login: Tue Nov  5 06:39:57 2024 from 103.255.145.106
ubuntu@ip-172-31-8-201:~$ history
    1  sudo apt update
    2  sudo apt upgrade -y
    3  sudo apt install apache2 -y
    4  apache2 --version
    5  apache2 -- version
    6  sudo systemctl enable apache2
    7  sudo systemctl start apache2
    8  sudo apt install mysql-server
    9  sudo  mysql -u root
   10  sudo apt install php libapache2-mod-php php-mysql
   11  sudo systemctl restart apache2
   12  ls
   13  ls -a
   14  cd /var/www/html
   15  ls
   16  sudo rm index.html
   17  ls
   18  wget https://wordpress.org/latest.zip
   19  sudo apt install unzip
   20  unzip latest.zip
   21  ls
   22  ls-a
   23  ls -a
   24  ls
   25  pwd
   26  unzip latest.zip
   27  wget https://wordpress.org/latest.zip
   28  ls
   29  cd ~
   30  wget https://wordpress.org/latest.zip
   31  sudo mv latest.zip /var/www/html/
   32  cd /var/www/html
   33  sudo unzip latest.zip
   34  ls
   35  ls /var/www/html
   36  cd wordpress
   37  ls
```

← → C ⚠ Not secure 43.204.115.170/wp-admin/post-new.php?post_type=page

W ➕ ✎ ↩ ↪ ☰   ▤ Welcome Tech   Ctrl+K

Updating failed. The response is not a valid JSON response.

Welcome Tech

Type / to choose a block

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← → C ⚠ Not secure 43.204.115.170/wp-admin/options-reading.php

W 🏠 Techno task 💬 0 ➕ New

🎛 Dashboard

📌 Posts

🖼 Media

📄 Pages

💬 Comments

🖌 Appearance

🔌 Plugins

👤 Users

🔧 Tools

🔀 Settings

General

Writing

Reading Settings

Your homepage displays   ○ Your latest posts

                                ◉ A static page (select below)

                                Homepage: — Select — ⌄

                                        — Select —

                                Posts page: Sample Page

                                Wondershare   Welcome Tech Created with
                                Filmora
                                                Wondershare Filmora free plan
Blog pages show at most   10   posts

**Syndication feeds show the
most recent**   10   items

For each post in a feed, include   ◉ Full text

Not secure 43.204.115.170

Techno task   Edit site   0   + New   Edit Page

i

Techno task

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Welcome Tech

This is My GithHub URL:- https://github.com/Abhisheksgp

Here I have Installed a Mysql Server, Apache2, php and configure all in the single Ec2 instance I have Explained in Next Microservice Architecture There we will connect by common same Vpc Here there will be not there Remaining all same

2).Microservices Architecture on AWS: Deploying WordPress and MySQL on Separate EC2 Instances:-

Requirements:- Same as Above Ec2 Instances Here Create Two Ec2 Instances:-

*) For Mysql (Here sss,Mysql/Aurora same as above)

*) Wordpress(Here ssh, http, https, Mysql/Aurora) connect this Through Putty SSH one by one Both

*)And install And configure the Mysql And Create DataBase Name , UserName, Password, And Do FLUSH PRIVILEGES and Exit Mysql Server and Assign Security Configuration for this And Assign The Permissions For (RWE).. Here Configure Mysql to allow external connections like sudo nano /etc/mysql/mysql.conf.d/mysqld.cnf here Change the Ip Address of example Bind-address =127.0.0.34 to 0.0.0.0 to allow connection from other services

*)For Wordpress Instance Insatll and configure Apache2, Php for wordpress and here configure Wodpress To connect To the database: like wp-config.php here you can use Nano Editor/Vim/vi.. i have used nano editor and change the Same What you have created in Mysql Server Datbase_Name, DB_user, DB_Password, DB_Host, And Ctrl+O to save and Confirm the Name for your File and exit (Ctrl+x)

*)After Insatlling apache2, Do
Sudo systemctl enable apache2
sudo systemctl restart apache2

For secure The mysql and root password confirming Use
sudo mysql_secure_installation

Finally go To ec2 instance of Wordpress And copy Ip address and paste to Any browser It will open WordPress if any errors troubleshoot by database connection Check the DB_name, user, password, and host as private address for Microservices and for Monolithic use localhost   later do login and create own homepage and save and open in browser

```
mysql> exit
Bye
ubuntu@ip-172-31-9-174:~$ sudo mysql -u root -P
mysql: [ERROR] mysql: option '-P' requires an argument.
ubuntu@ip-172-31-9-174:~$ sudo mysql -u root -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 11
Server version: 8.0.39-0ubuntu0.24.04.2 (Ubuntu)

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owners.

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

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

mysql> CREATE USER 'wp_users'@'%' IDENTIFIED BY 'Abhipassword@80882';
Query OK, 0 rows affected (0.11 sec)

mysql> GRANT ALL PRIVILEGES ON wordpress.* TO 'wp_users'@'%';
Query OK, 0 rows affected (0.01 sec)

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

mysql> sudo nano /etc/mysql/mysql.conf.d/mysqld.cnf
    -> sudo nano /etc/mysql/mysql.conf.d/mysqld.cnf
    -> ^C
mysql> ^C
mysql> exit
Bye
ubuntu@ip-172-31-9-174:~$ sudo nano /etc/mysql/mysql.conf.d/mysqld.cnf
ubuntu@ip-172-31-9-174:~$ sudo systemctl restart mysql
ubuntu@ip-172-31-9-174:~$ history
    1  sudo apt update
    2  sudo apt install mysql-server
    3  sudo mysql_secure_installation
    4  sudo mysql -u root -p
    5  sudo mysql -u root -P
    6  sudo mysql -u root -p
    7  sudo nano /etc/mysql/mysql.conf.d/mysqld.cnf
    8  sudo systemctl restart mysql
    9  history
ubuntu@ip-172-31-9-174:~$
```

⚠ Not secure   3.110.155.32

Welcome To Intern

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The Future For Cloud is Increasing so Software Development And service

with a passion for innovation also increasing so Iam Looking Forward to

Enhance And upskill in the Cloud And DevOps Looking Forward to work i

Company like TECHPLEMENT

IAM ABHISHEK.K