Cloud (AWS) Week 1 Task:

1. Prerequisites: Create your free-tier AWS account.
    - Task: Deploy application in monolithic and microservices architecture.
2. Description: For monolithic:
    - 1 EC2 instance, deploy WordPress and MYSQL on the same instances.
3. 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-*.
4. Create a welcome page in WordPress that will be the homepage

For Monolithic Architecture:

1.Launch an EC2 Instance:

2.Log in to the AWS Management Console.

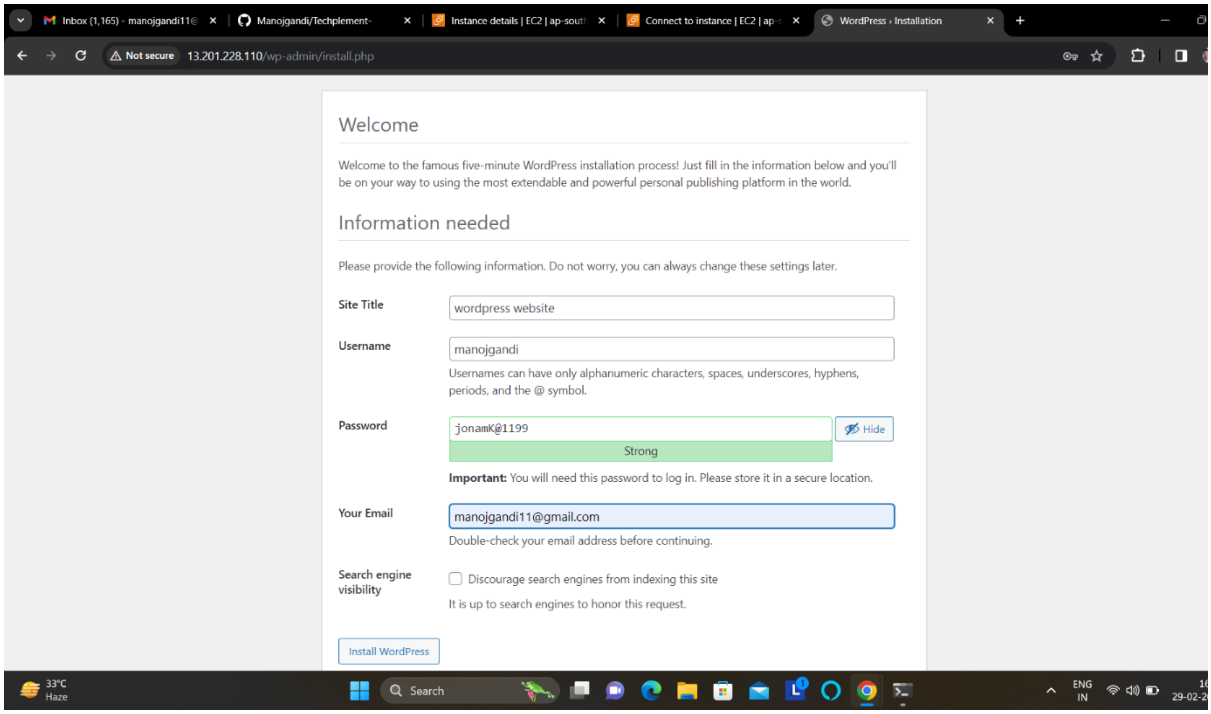
- Navigate to the EC2 service.
- Launch an EC2 instance using the Ubuntu AMI.
- Choose the t2. micro instance type.
- Configure security groups to allow inbound traffic on ports 22 (SSH), 80 (HTTP), and 3306 (MySQL).
- Launch instance and connect local machine with ssh connect.

3.Install and Configure MySQL:

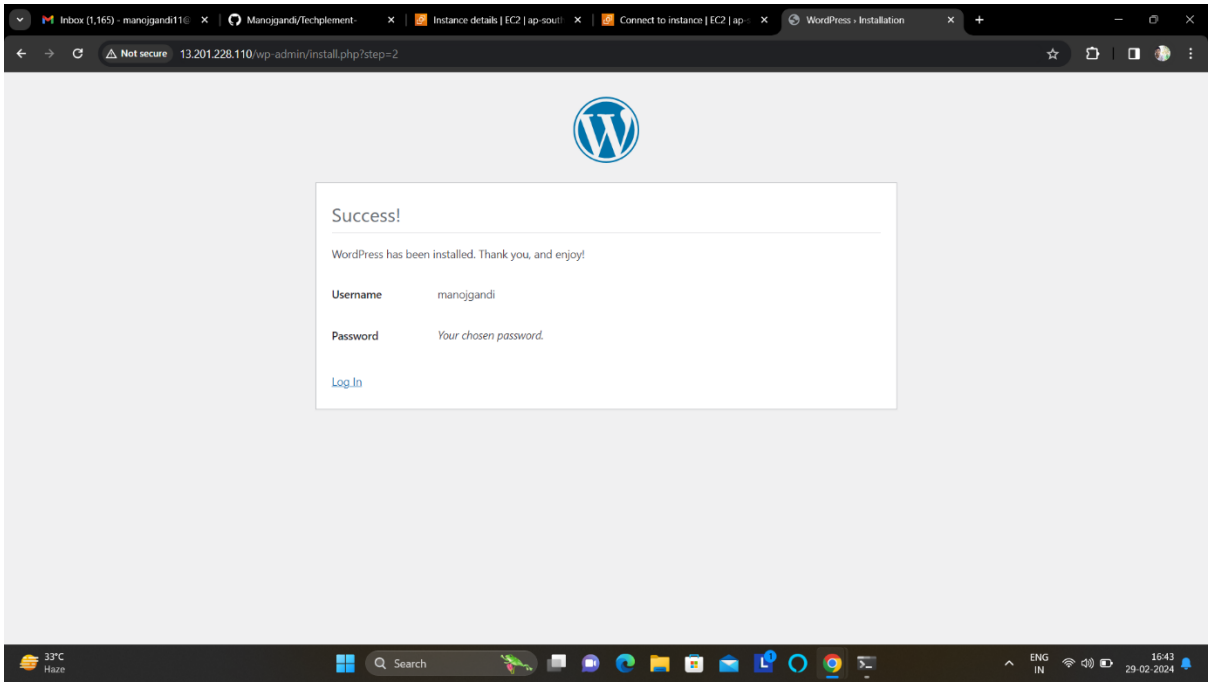
- Connect to the EC2 instance via SSH.
- Install MySQL server using the package manager.
- Secure the MySQL installation and set up a root password.
- Create a new MySQL database and user for WordPress.

4.Install and Configure WordPress:

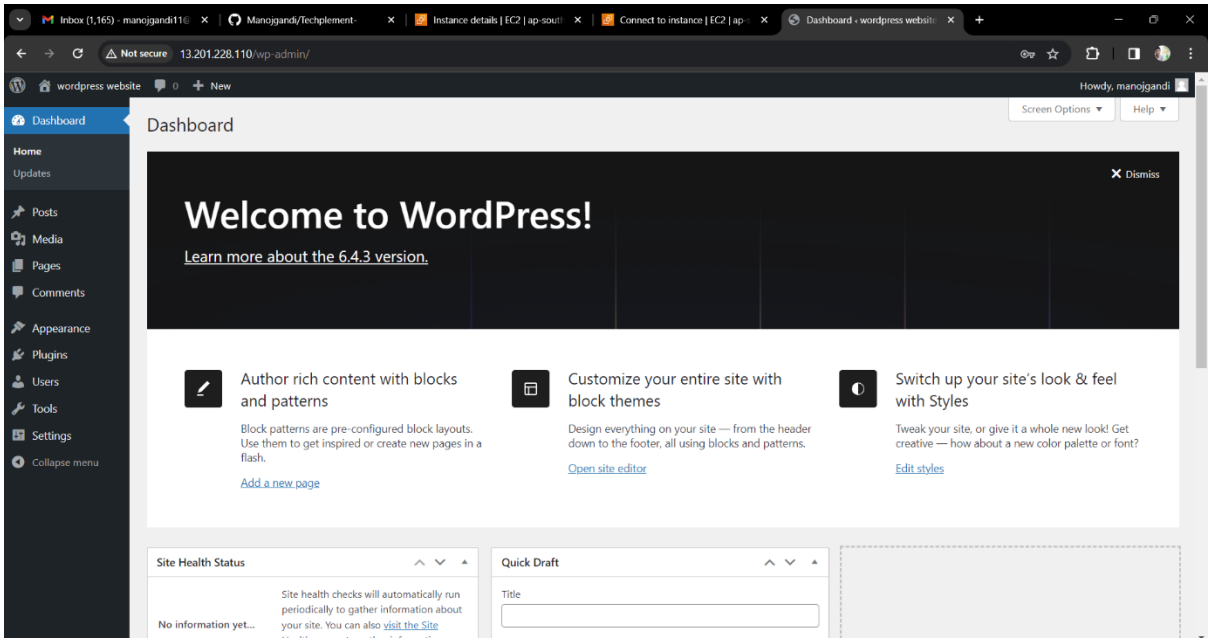
- Install Apache web server, PHP, and other necessary packages.
- Download and configure WordPress files.
- Update the WordPress configuration file (wp-config.php) with the MySQL database information.
- Set up necessary file permissions.
- Access WordPress via the browser to complete the installation and set up the welcome page.
- Using public Ip address(13.201.228.110) of the instance we accessed the welcome page.



- After wordpress welcome install.



- Final output



For Microservices Architecture:

1.Launch two EC2 instances:

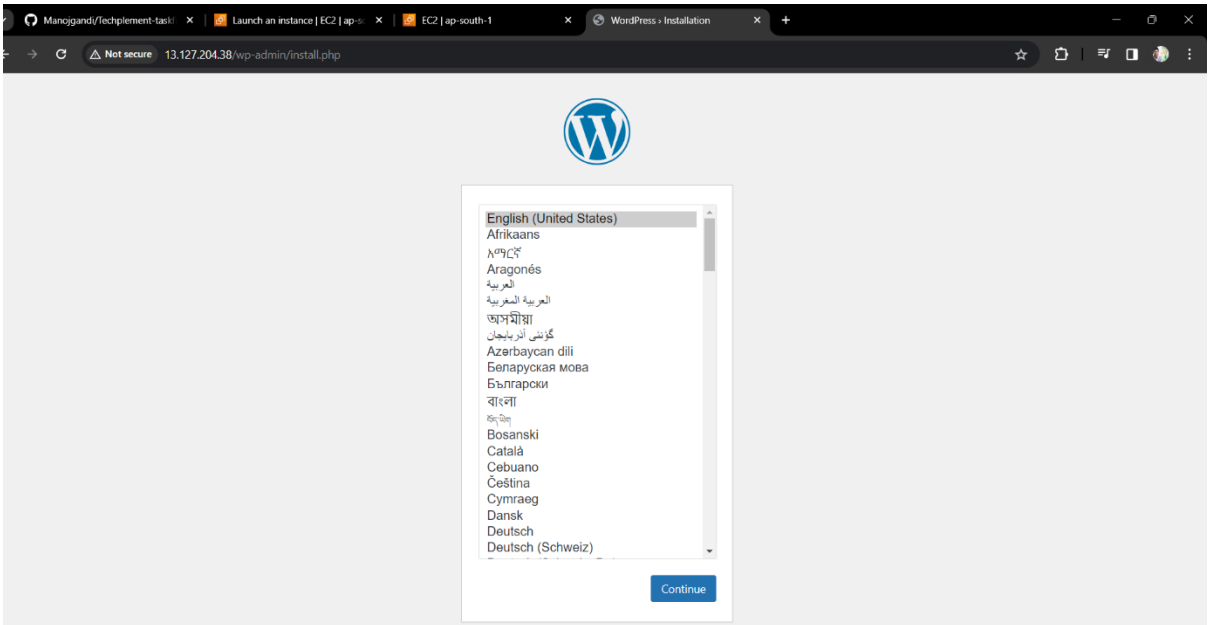
- Follow the same steps as above to launch two separate EC2 instances, one for WordPress and one for MySQL.
- Ensure that each instance has the appropriate security group allowing inbound traffic on ports 22, 80, and 3306.

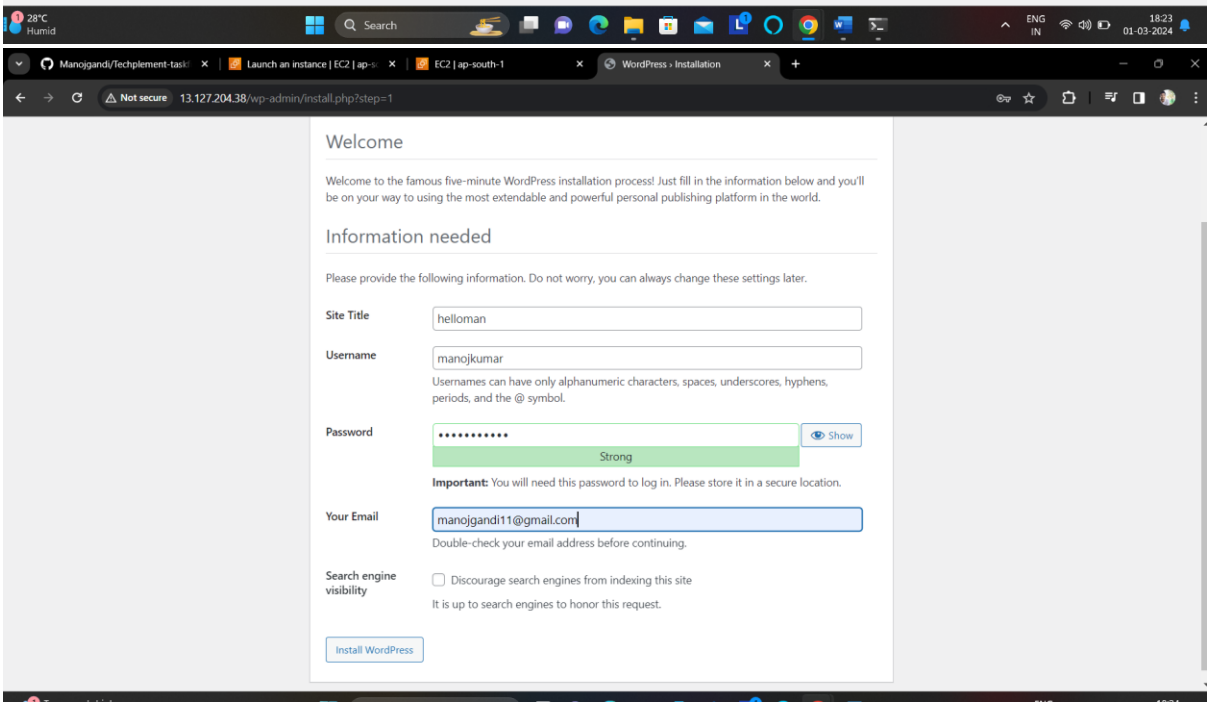
2.Install MySQL on one EC2 instance:

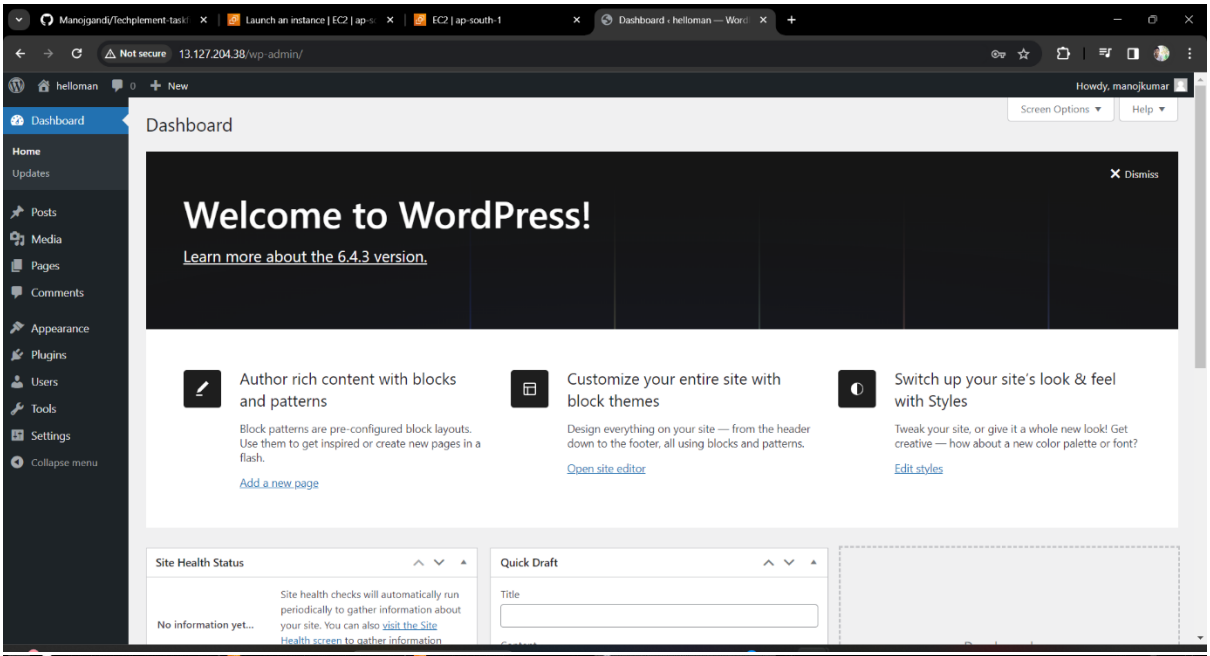
- SSH into the MySQL EC2 instance.
- Install MySQL Server and secure the installation as described above.
- Install WordPress on the other EC2 instance:
- SSH into the WordPress EC2 instance.
- Install Apache, PHP, and other dependencies as described above.
- Download and extract the latest WordPress package.
- Configure WordPress to connect to the MySQL database hosted on the other EC2 instance.

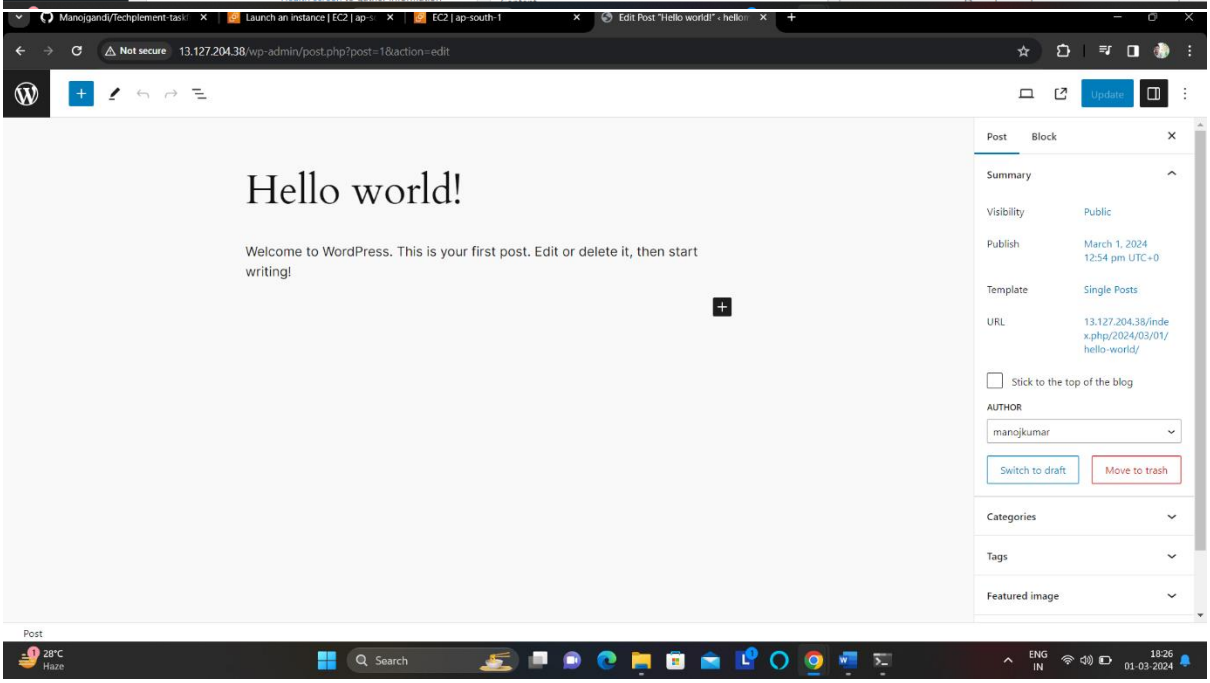
3.Access WordPress:

- Open a web browser and navigate to the public IP address of the WordPress EC2 instance.
- Complete the WordPress installation wizard.


Manojgandi/Techplement-task
Launch an instance | EC2 | ap-south-1
EC2 | ap-south-1
WordPress › Installation
Not secure
13.127.204.38/wp-admin/install.php
English (United States)
Afrikaans
Aragonés
العربية
العربية المغربية
অসমীয়া
گؤنئی آذربایجان
Azərbaycan dili
Беларуская мова
Български
বাংলা
Bosanski
Català
Cebuano
Čeština
Cymraeg
Dansk
Deutsch
Deutsch (Schweiz)
Continue


Manojgandi/Techplement-task
Launch an instance | EC2 | ap-south-1
EC2 | ap-south-1
WordPress › Installation
Not secure
13.127.204.38/wp-admin/install.php?step=1
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
helloman
Username
manojkumar
Usernames can have only alphanumeric characters, spaces, underscores, hyphens, periods, and the @ symbol.
Password
Show
Strong
Important: You will need this password to log in. Please store it in a secure location.
Your Email
manojgandi11@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





Challenges Faced:

- Networking Configuration: Configuring the security groups to allow the necessary inbound traffic while maintaining security can be challenging. Referring to AWS documentation on security groups and VPC networking helped overcome this challenge.
- Resource Management: Ensuring that the EC2 instances have sufficient resources (CPU, memory, storage) for both WordPress and MySQL can be tricky, especially with the microservices architecture. Regular monitoring and adjusting instance types helped overcome this challenge.
- Database Connectivity: Ensuring proper connectivity between the WordPress instance and MySQL instance in the microservices architecture required careful configuration of database

credentials and network settings. Following WordPress and MySQL documentation helped resolve any connectivity issues.

Summary of Differences:

- Monolithic Architecture: Involves deploying both WordPress and MySQL on a single EC2 instance, simplifying setup and management but potentially limiting scalability and resilience.
- Microservices Architecture: Separates WordPress and MySQL onto separate EC2 instances, offering better scalability and resilience but requiring more complex networking and management. Allows for scaling each component independently based on demand.

THE END