

# Monolithic Application Deployment on EC2 with Apache, MySQL, and WordPress

## Introduction:

This report outlines the successful deployment of a monolithic application on Amazon EC2, leveraging Apache as the web server, MySQL as the database, and hosting a WordPress website.

## Infrastructure Setup:

### 1. Amazon EC2 Instances:

- Utilized Amazon EC2 instances to host the monolithic application.
- Configured instances based on resource requirements and scaling considerations.

### 2. Apache 2 Installation:

- Deployed the Apache 2 web server to handle HTTP requests.
- Configured Apache to serve as the front-end for the application.
- COMMANDS:

```
sudo apt update
sudo apt install apache2
```

### 3. MySQL Database:

- Installed MySQL to serve as the backend database.
- Configured and optimized MySQL settings for performance and security.
- COMMANDS:

```
sudo apt install mysql-server
```

TO LOGIN:

```
$ sudo mysql -u root
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 7
Server version: 5.7.20-0ubuntu0.16.04.1 (Ubuntu)
```

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

```
mysql> CREATE DATABASE wordpress;
```

Query OK, 1 row affected (0,00 sec)

```
mysql> CREATE USER wordpress@localhost IDENTIFIED BY '<your-password>';  
Query OK, 1 row affected (0,00 sec)
```

```
mysql> GRANT SELECT,INSERT,UPDATE,DELETE,CREATE,DROP,ALTER  
-> ON wordpress.*  
-> TO wordpress@localhost;  
Query OK, 1 row affected (0,00 sec)
```

```
mysql> FLUSH PRIVILEGES;  
Query OK, 1 row affected (0,00 sec)
```

```
mysql> quit  
Bye
```

Enable MySQL with `sudo service mysql start`.

#### 4. **Application Deployment:**

- **WordPress Installation:**

Install WordPress on the Apache server.

To install PHP and Apache,

```
sudo apt update  
sudo apt install apache2 \  
ghostscript \  
libapache2-mod-php \  
mysql-server \  
php \  
php-bcmath \  
php-curl \  
php-imagick \  
php-intl \  
php-json \  
php-mbstring \  
php-mysql \  
php-xml \  
php-zip
```

- Create the installation directory and download the file from [WordPress.org](https://wordpress.org/):

```
sudo mkdir -p /srv/www  
sudo chown www-data: /srv/www  
curl https://wordpress.org/latest.tar.gz | sudo -u www-data tar  
zx -C /srv/www
```

- **Configure Apache for WordPress**

Create Apache site for WordPress. Create `/etc/apache2/sites-available/wordpress.conf` with following lines:

```

<VirtualHost *:80>
DocumentRoot /srv/www/wordpress
<Directory /srv/www/wordpress>
Options FollowSymLinks
AllowOverride Limit Options FileInfo
DirectoryIndex index.php
Require all granted
</Directory>
<Directory /srv/www/wordpress/wp-content>
Options FollowSymLinks
Require all granted
</Directory>
</VirtualHost>

```

Enable the site with:

```
sudo a2ensite wordpress
```

Enable URL rewriting with:

```
sudo a2enmod rewrite
```

Disable the default "It Works" site with:

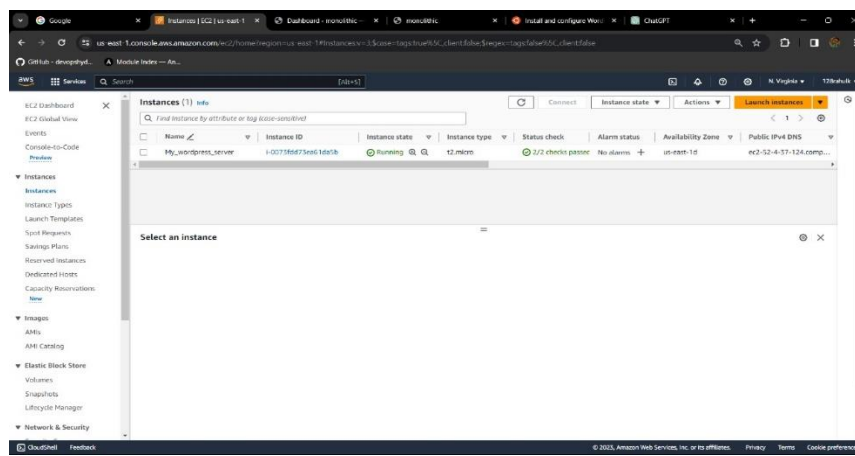
```
sudo a2dissite 000-default
```

reload apache2 to apply all these changes:

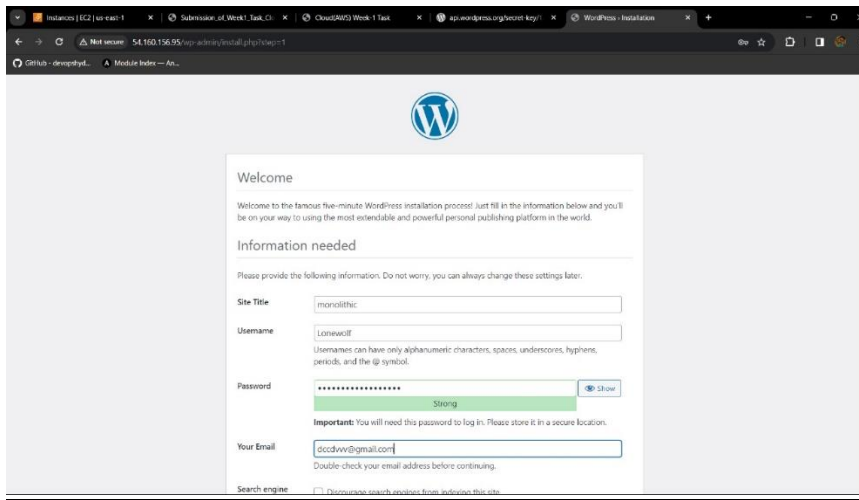
```
sudo service apache2 reload
```

## OUTCOME :

### 1. EC2 Instance

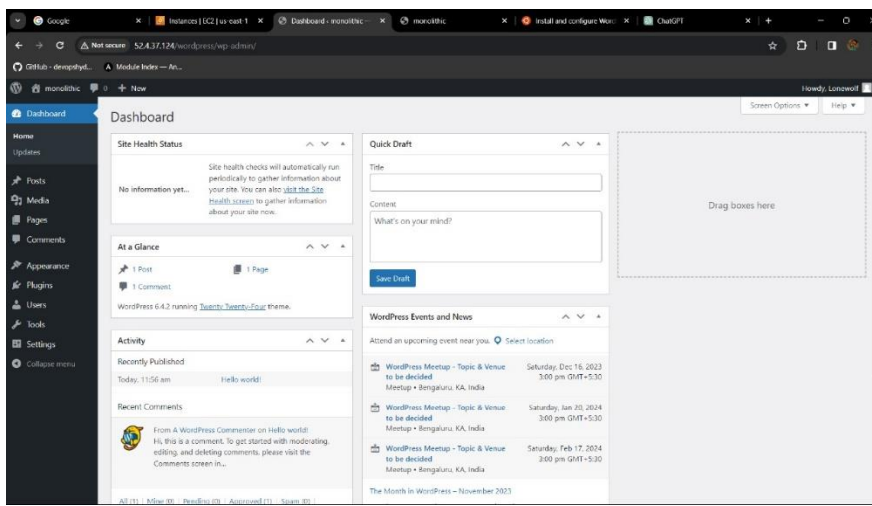


## 2. Wordpress Dashboard



The image shows the WordPress installation 'Welcome' screen. It features the WordPress logo at the top. Below it, a 'Welcome' message states: '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.' The 'Information needed' section asks for the following details:

- Site Title:** A text input field containing 'monolithic'.
- Username:** A text input field containing 'LoneWolf'. A note below states: 'Usernames can have only alphanumeric characters, spaces, underscores, hyphens, periods, and the @ symbol.'
- Password:** A password input field with a strength indicator showing 'Strong' in green. A 'Show' button is next to it. An important note states: 'Important: You will need this password to log in. Please store it in a secure location.'
- Your Email:** A text input field containing 'oocdvv@gmail.com'. A note below states: 'Double-check your email address before continuing.'
- Search engine:** A checkbox labeled 'Discourage search engines from indexing this site' which is currently unchecked.



The image shows the WordPress dashboard after installation. The left sidebar contains a menu with 'Dashboard' selected, and other options like 'Posts', 'Media', 'Pages', 'Comments', 'Appearance', 'Plugins', 'Users', 'Tools', 'Settings', and 'Collapse menu'. The main content area is titled 'Dashboard' and includes several widgets:

- Site Health Status:** A widget indicating that site health checks will run periodically to gather information about the site.
- At a Glance:** A summary widget showing '1 Post', '1 Page', and '1 Comment'. It also mentions 'WordPress 6.4.2 running Twenty-Four theme'.
- Activity:** A section for 'Recently Published' (showing 'Hello world!' at 11:06 am) and 'Recent Comments' (showing a comment from 'WordPress Commenter on Hello world!').
- Quick Draft:** A widget for creating a new post, with fields for 'Title' and 'Content' (containing 'What's on your mind?'). A 'Save Draft' button is at the bottom.
- WordPress Events and News:** A section for upcoming events, listing three 'WordPress Meetup' events in Bengaluru, India, for Dec 16, Jan 20, and Feb 17, 2024.

A large dashed box on the right side of the dashboard is labeled 'Drag boxes here'.

