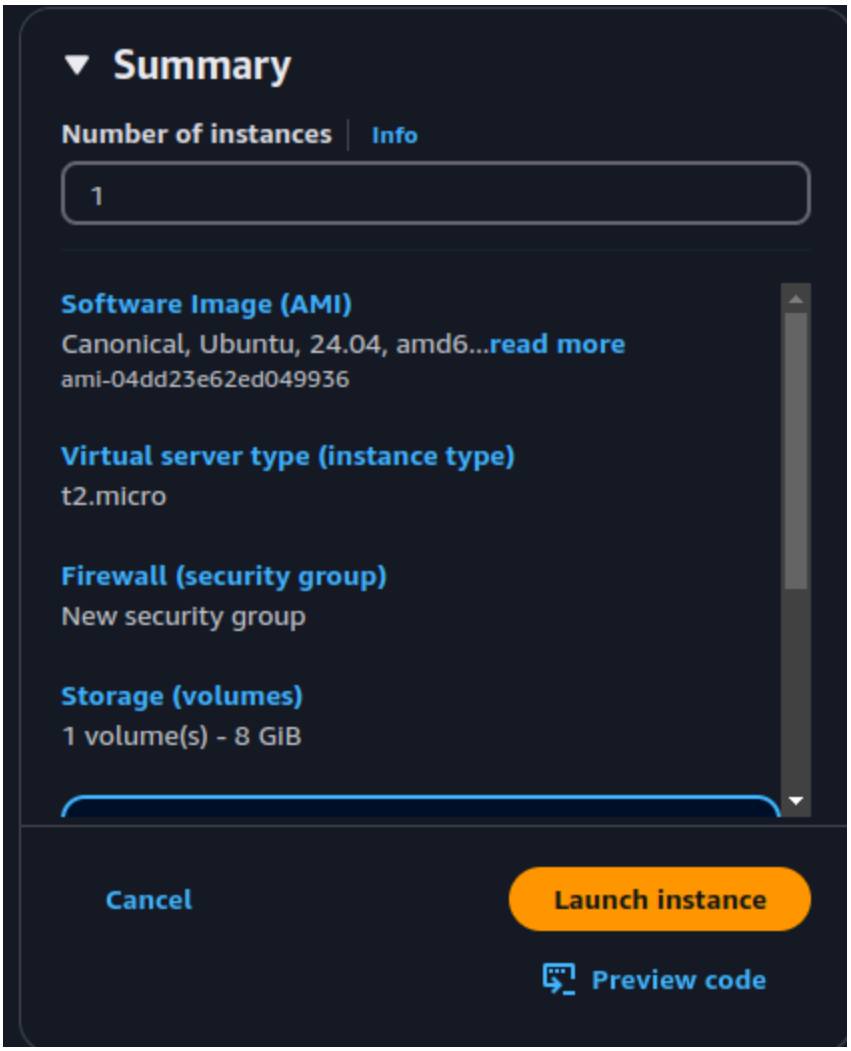
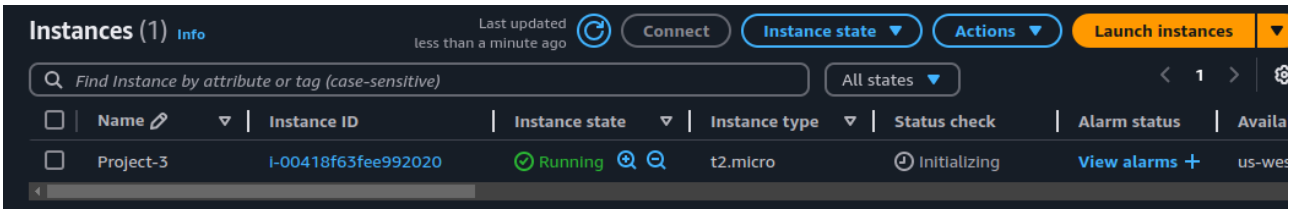
DOCUMENTATION

Deploying Todo List on EC2 using PHP

Step 1: Launch an Ubuntu EC2 Instance

1. **Log in to the AWS Console** and navigate to the EC2 Dashboard.
2. **Launch an Instance:**
    - **AMI:** Select **Ubuntu Server 24.04 LTS**.
    - **Instance Type:** `t2.micro` (Free Tier Eligible).
    - **Key Pair:** Create or use an existing key pair.
    - **Security Group:**
        - Allow **HTTP (Port 80)** from 0.0.0.0/0.
        - Allow **SSH (Port 22)** from your IP.
3. **Launch the Instance.**

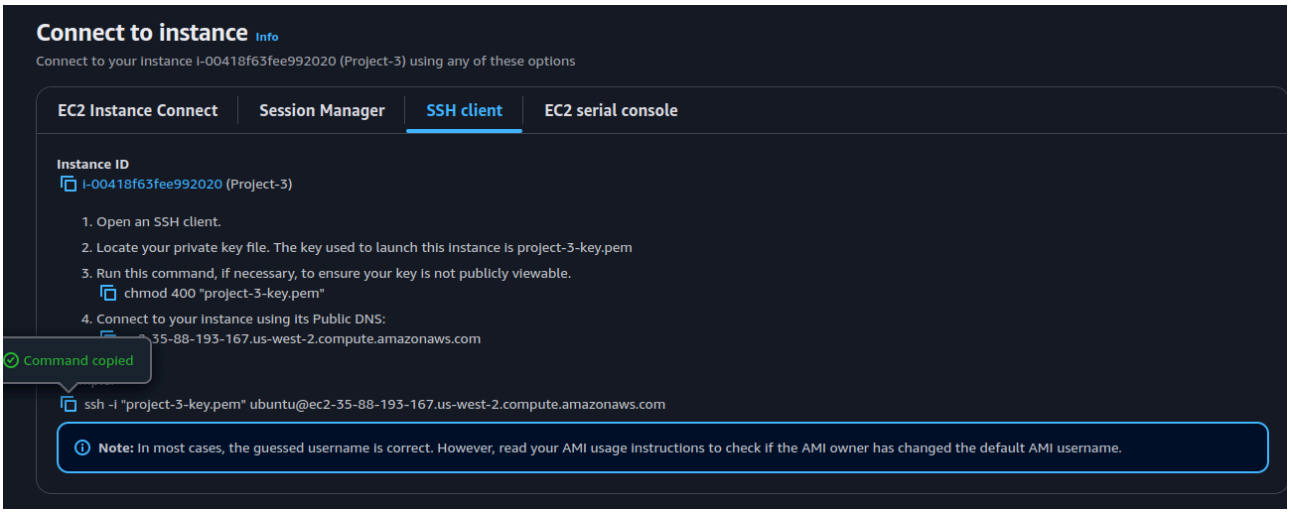


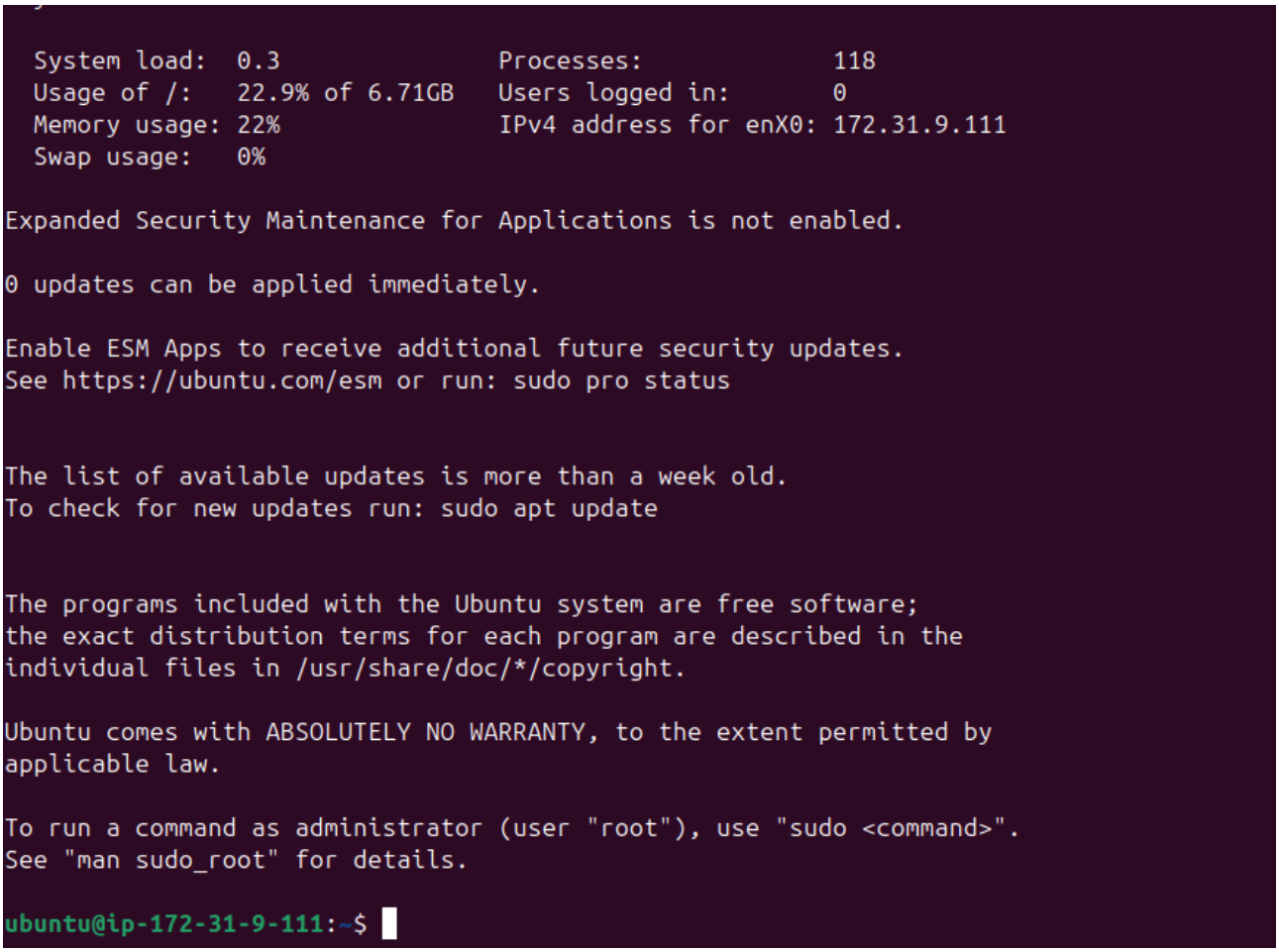


Step 2: Connect to the EC2 Instance

1. **SSH into the instance:**

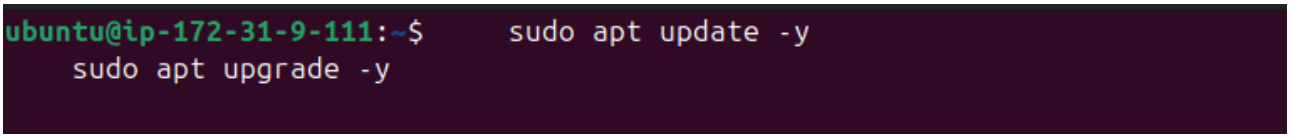
```
ssh -i "your-key-file.pem" ubuntu@<INSTANCE_PUBLIC_IP>
```





2. **Update the system:**

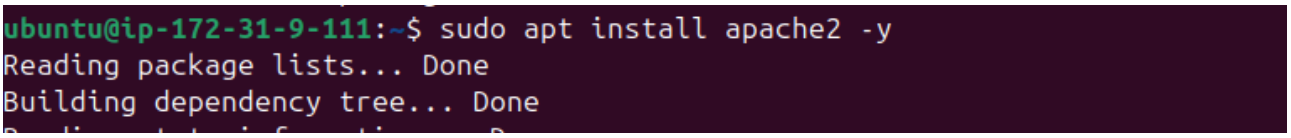
```
sudo apt update -y
sudo apt upgrade -y
```



Step 3: Install Apache, PHP, and MySQL

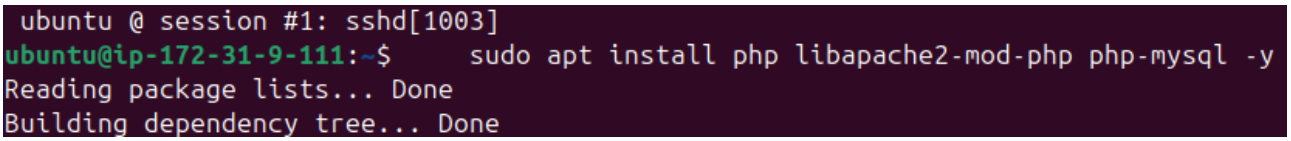
1. **Install Apache:**

```
sudo apt install apache2 -y
```



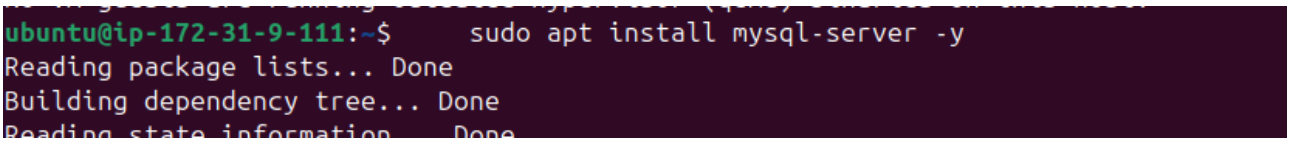
2. **Install PHP and Required Modules:**

```
sudo apt install php libapache2-mod-php php-mysql -y
```



3. **Install MySQL:**

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



4. **Secure MySQL Installation:**

```
sudo mysql_secure_installation
```

   - Set a root password and follow the prompts to secure MySQL.

Step 4: Set Up the Database

1. **Log into MySQL:**

```
sudo mysql -u root -p
```

```
All done!
ubuntu@ip-172-31-9-111:~$     sudo mysql -u root -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 10
Server version: 8.0.40-0ubuntu0.24.04.1 (Ubuntu)

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owners.

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

mysql>
```

2. **Create a Database:**

```
CREATE DATABASE todo;
EXIT;
```

```
Server version: 8.0.40-0ubuntu0.24.04.1 (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 DATABASE todo;
Query OK, 1 row affected (0.01 sec)

mysql>     EXIT;
Bye
ubuntu@ip-172-31-9-111:~$
```

3. **Import the `todo.sql` File:**
   - Clone the GitHub repository:

```
sudo apt install git -y
git clone https://github.com/ali-azgar-rakib/Todo-list-with-php.git
```

```
ubuntu@ip-172-31-9-111:~$         sudo apt install git -y
       git clone https://github.com/ali-azgar-rakib/Todo-list-with-php.git
```

   - Navigate to the repository directory:

```
cd Todo-list-with-php
```

- Import the `todo.sql` file into the `todo` database:

```
sudo mysql -u root -p todo < todo.sql
```

```
ubuntu@ip-172-31-9-111:~$ cd Todo-list-with-php/
ubuntu@ip-172-31-9-111:~/Todo-list-with-php$ sudo mysql -u root -p todo < todo.sql
Enter password:
ubuntu@ip-172-31-9-111:~/Todo-list-with-php$
```

Step 5: Deploy the Application

1. **Move the Application Files:**
   - Move all files from the cloned repository to the Apache web directory:

```
sudo mv * /var/www/html/
```

2. **Set Permissions:**
   - Ensure Apache has access to the files:

```
sudo chmod -R 755 /var/www/html/
```

3. **Restart Apache:**

```
sudo systemctl restart apache2
```

```
ubuntu@ip-172-31-9-111:~$  sudo mv * /var/www/html/
ubuntu@ip-172-31-9-111:~$         sudo chmod -R 755 /var/www/html/
ubuntu@ip-172-31-9-111:~$     sudo systemctl restart apache2
ubuntu@ip-172-31-9-111:~$
```

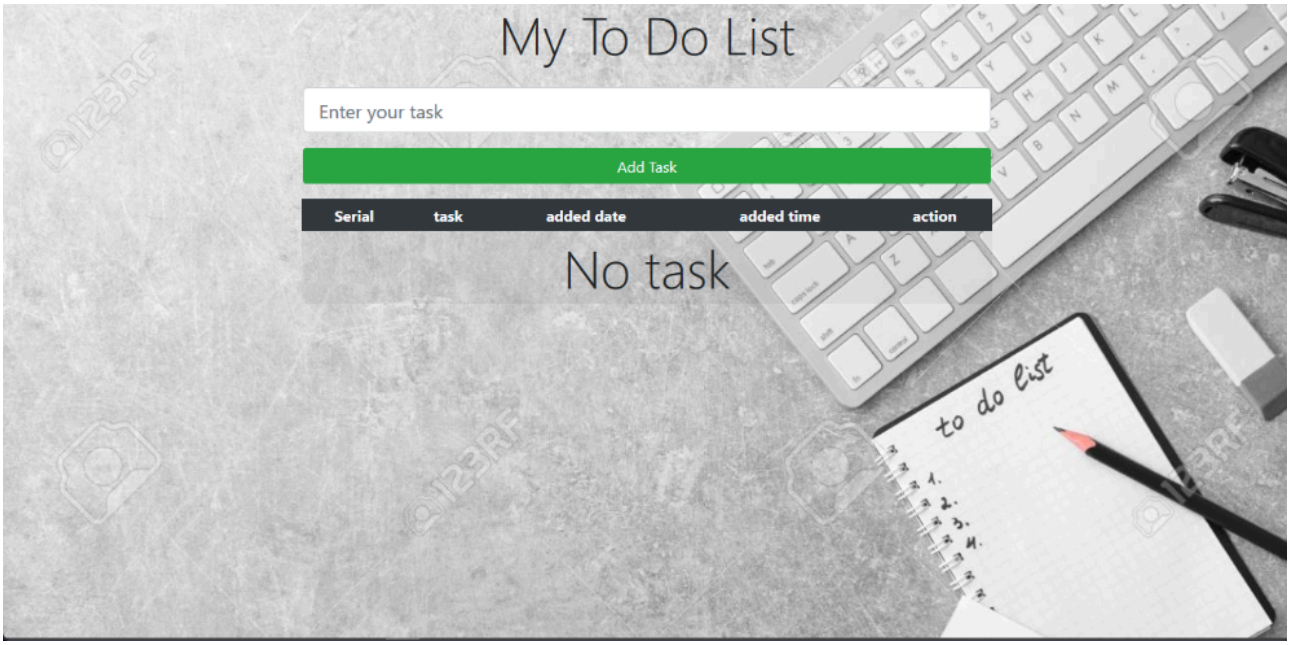
Step 6: Test the Application

1. Open your browser and navigate to:

```
http://<INSTANCE_PUBLIC_IP>
```

2. **What You Should See:**

```
- A working To-Do List application with options to:
    - Add tasks.
    - View tasks.
    - Edit tasks.
    - Delete tasks.
```



Step 7: Secure and Clean Up

1. **Restrict SSH Access:**
    - Update your EC2 Security Group to allow SSH only from your IP address.
2. **Stop or Terminate the Instance (if not needed).**

Conclusion

You've successfully deployed a PHP-based To-Do List application on an EC2 instance! You can now manage tasks, edit to-do items, and access the application from anywhere using the public IP (or your custom domain if configured).