

Lab 2

Cloud Infrastructure Management

Date: 12-01-24

Carry out an experiment to create and demonstrate the working dynamic Web Server.

1.Update Package Lists:

```
mtech@ds1ab-pc:~$ sudo apt update
[sudo] password for mtech:
Get:1 https://download.docker.com/linux/ubuntu jammy InRelease [48.8 kB]
Get:2 https://packages.microsoft.com/repos/ms-teams stable InRelease [5,931 B]
Hit:3 http://in.archive.ubuntu.com/ubuntu jammy InRelease
Get:4 https://download.docker.com/linux/ubuntu jammy/stable amd64 Packages [26.1 kB]
Get:5 http://security.ubuntu.com/ubuntu jammy-security InRelease [110 kB]
Hit:6 https://packages.cloud.google.com/apt cloud-sdk InRelease
Get:7 http://in.archive.ubuntu.com/ubuntu jammy-updates InRelease [119 kB]
Hit:8 https://ppa.launchpadcontent.net/gns3/ppa/ubuntu jammy InRelease
Hit:9 http://in.archive.ubuntu.com/ubuntu jammy-backports InRelease
Get:10 http://in.archive.ubuntu.com/ubuntu jammy-updates/main i386 Packages [560 kB]
Get:11 http://in.archive.ubuntu.com/ubuntu jammy-updates/main amd64 Packages [1,326 kB]
Get:12 http://in.archive.ubuntu.com/ubuntu jammy-updates/main Translation-en [268 kB]
Get:13 http://in.archive.ubuntu.com/ubuntu jammy-updates/universe i386 Packages [686 kB]
Get:14 http://in.archive.ubuntu.com/ubuntu jammy-updates/universe amd64 Packages [1,042 kB]
Fetched 4,190 kB in 7s (627 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
140 packages can be upgraded. Run 'apt list --upgradable' to see them.
mtech@ds1ab-pc:~$
```

2. Install Apache, PHP, and MySQL:

- sudo apt-get install apache2 php libapache2-mod-php php-mysql mysql-server mysql-client

```
mtech@ds1ab-pc:~$ sudo apt-get update -y
[sudo] password for mtech:
Get:1 https://download.docker.com/linux/ubuntu jammy InRelease [48.8 kB]
Get:2 https://packages.microsoft.com/repos/ms-teams stable InRelease [5,931 B]
Hit:3 http://in.archive.ubuntu.com/ubuntu jammy InRelease
Get:4 http://security.ubuntu.com/ubuntu jammy-security InRelease [110 kB]
Get:5 http://in.archive.ubuntu.com/ubuntu jammy-updates InRelease [119 kB]
Hit:6 https://ppa.launchpadcontent.net/gns3/ppa/ubuntu jammy InRelease
Hit:7 http://in.archive.ubuntu.com/ubuntu jammy-backports InRelease
Get:8 http://security.ubuntu.com/ubuntu jammy-security/universe amd64 Packages [826 kB]
Get:9 http://in.archive.ubuntu.com/ubuntu jammy-updates/main amd64 Packages [1,277 kB]
Get:10 http://in.archive.ubuntu.com/ubuntu jammy-updates/main i386 Packages [549 kB]
Get:11 http://in.archive.ubuntu.com/ubuntu jammy-updates/main Translation-en [261 kB]
Get:12 http://in.archive.ubuntu.com/ubuntu jammy-updates/universe i386 Packages [678 kB]
Get:13 http://in.archive.ubuntu.com/ubuntu jammy-updates/universe amd64 Packages [1,023 kB]
Get:14 http://in.archive.ubuntu.com/ubuntu jammy-updates/universe Translation-en [228 kB]
Fetched 5,126 kB in 8s (679 kB/s)
Reading package lists... Done
mtech@ds1ab-pc:~$ sudo apt-get install apache2 php libapache2-mod-php php-mysql mysql-server mysql-client
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
apache2 is already the newest version (2.4.52-1ubuntu4.7).
The following packages were automatically installed and are no longer required:
  libflashrom1 libfdt1-2
Use 'sudo apt autoremove' to remove them.
The following additional packages will be installed:
  libapache2-mod-php8.1 libcgi-fast-perl libcgi-pm-perl libfcgi-bin libfcgi-perl libfcgi0ldbl libhtml-template-perl libmecab2 mecab-ipadic mecab-ipadic-utf8 mecab-utils mysql-client-8.0
  mysql-client-core-8.0 mysql-common mysql-server mysql-server-core-8.0 php-common php8.1 php8.1-cli php8.1-common php8.1-mysql php8.1-opcache php8.1-readline
Suggested packages:
  php-pear libipc-sharedcache-perl mailx tinyc
The following NEW packages will be installed:
  libapache2-mod-php libapache2-mod-php8.1 libcgi-fast-perl libcgi-pm-perl libfcgi-bin libfcgi-perl libfcgi0ldbl libhtml-template-perl libmecab2 mecab-ipadic mecab-ipadic-utf8 mecab-utils mysql-client-8.0
  mysql-client-core-8.0 mysql-client-core-8.0 mysql-common mysql-server mysql-server-8.0 mysql-server-core-8.0 php php-common php-mysql php8.1 php8.1-cli php8.1-common php8.1-mysql php8.1-opcache
  php8.1-readline
0 upgraded, 28 newly installed, 0 to remove and 72 not upgraded.
Need to get 34.3 MB of archives.
After this operation, 263 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://in.archive.ubuntu.com/ubuntu jammy/main amd64 mysql-common all 5.8+1.0.8 [7,212 B]
Get:2 http://in.archive.ubuntu.com/ubuntu jammy-updates/main amd64 mysql-client-core-8.0 amd64 8.0.35-0ubuntu0.22.04.1 [2,682 kB]
Get:3 http://in.archive.ubuntu.com/ubuntu jammy-updates/main amd64 mysql-client-8.0 amd64 8.0.35-0ubuntu0.22.04.1 [22.7 kB]
Get:4 http://in.archive.ubuntu.com/ubuntu jammy/main amd64 libmecab2 amd64 0.996-1build9 [199 kB]
Get:5 http://in.archive.ubuntu.com/ubuntu jammy-updates/main amd64 mysql-server-core-8.0 amd64 8.0.35-0ubuntu0.22.04.1 [17.6 MB]
Get:6 http://in.archive.ubuntu.com/ubuntu jammy-updates/main amd64 mysql-server-8.0 amd64 8.0.35-0ubuntu0.22.04.1 [1,438 kB]
Get:7 http://in.archive.ubuntu.com/ubuntu jammy/main amd64 php-common all 2:92ubuntu1 [12.4 kB]
Get:8 http://in.archive.ubuntu.com/ubuntu jammy-updates/main amd64 php8.1-common amd64 8.1.2-1ubuntu2.14 [1,127 kB]
Get:9 http://in.archive.ubuntu.com/ubuntu jammy-updates/main amd64 php8.1-opcache amd64 8.1.2-1ubuntu2.14 [365 kB]
Get:10 http://in.archive.ubuntu.com/ubuntu jammy-updates/main amd64 php8.1-readline amd64 8.1.2-1ubuntu2.14 [13.6 kB]
Get:11 http://in.archive.ubuntu.com/ubuntu jammy-updates/main amd64 php8.1-cli amd64 8.1.2-1ubuntu2.14 [1,834 kB]
Get:12 http://in.archive.ubuntu.com/ubuntu jammy-updates/main amd64 libapache2-mod-php8.1 amd64 8.1.2-1ubuntu2.14 [1,766 kB]
Get:13 http://in.archive.ubuntu.com/ubuntu jammy/main amd64 libapache2-mod-php all 2:8.1+92ubuntu1 [2,898 B]
Get:14 http://in.archive.ubuntu.com/ubuntu jammy/main amd64 libcgi-pm-perl all 4.54-1 [188 kB]
Get:15 http://in.archive.ubuntu.com/ubuntu jammy/main amd64 libfcgi0ldbl amd64 2.4.2-2build2 [28.0 kB]
Get:16 http://in.archive.ubuntu.com/ubuntu jammy/main amd64 libfcgi-perl amd64 0.82+ds-1build1 [22.8 kB]
Get:17 http://in.archive.ubuntu.com/ubuntu jammy/main amd64 libcgi-fast-perl all 1:2.15-1 [10.5 kB]
```

3. Clone the repo sudo

- git clone <https://github.com/sreepathysois/phpmysql-app.git>

```
Cloning into 'phpmysql-app'...
remote: Enumerating objects: 331, done.
remote: Counting objects: 100% (43/43), done.
remote: Compressing objects: 100% (29/29), done.
remote: Total 331 (delta 24), reused 21 (delta 11), pack-reused 288
Receiving objects: 100% (331/331), 13.80 MiB | 8.46 MiB/s, done.
Resolving deltas: 100% (63/63), done.
```

4. Navigate to the Application Directory

- `cd phpmysql-app/php/online-shopping-system`

5. Copy Application Files to Apache Document Root

- `sudo cp -rf * /var/www/html/.`

6. Start MySQL and Create Database and User:

- `sudo mysql -u root -p`

```
mtech@ds1ab-pc:~/phpmysql-app/php/online-shopping-system$ sudo cp -rf * /var/www/html/
mtech@ds1ab-pc:~/phpmysql-app/php/online-shopping-system$ sudo mysql -u root -p ###
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 8
Server version: 8.0.35-0ubuntu0.22.04.1 (Ubuntu)

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owners.

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

mysql>
mysql>
[1]+  Stopped                  sudo mysql -u root -p
mtech@ds1ab-pc:~/phpmysql-app/php/online-shopping-system$ sudo mysql -u root -p ###
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 9
Server version: 8.0.35-0ubuntu0.22.04.1 (Ubuntu)

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```

7. Execute below db queries

- `create database ecomm;`
- `CREATE USER 'mahese'@'localhost' IDENTIFIED BY 'mahese@123';`
- `GRANT ALL PRIVILEGES ON ecomm.* TO 'mahese'@'localhost';`

```
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 10
Server version: 8.0.35-0ubuntu0.22.04.1 (Ubuntu)

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owners.

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

mysql> create database ecomm;
Query OK, 1 row affected (0.18 sec)

mysql> CREATE USER 'mahese'@'localhost' IDENTIFIED BY 'mahese@123';
Query OK, 0 rows affected (0.08 sec)
```

```
mysql> GRANT ALL PRIVILEGES ON database_name.* TO 'mahese'@'localhost';  
Query OK, 0 rows affected (0.13 sec)
```

8. use ecomm

```
mysql> use ecomm;  
Database changed
```

9. source database/onlineshop.sql;

```
mysql> source database/onlineshop.sql;  
Query OK, 0 rows affected (0.00 sec)  
  
Query OK, 0 rows affected (0.00 sec)  
  
Query OK, 0 rows affected (0.00 sec)  
  
Query OK, 0 rows affected (0.00 sec)  
  
Query OK, 0 rows affected (0.00 sec)  
  
Query OK, 0 rows affected (0.00 sec)  
  
Query OK, 0 rows affected (0.00 sec)  
  
Query OK, 0 rows affected (0.16 sec)  
  
Query OK, 0 rows affected, 1 warning (1.02 sec)  
  
Query OK, 1 row affected (0.06 sec)  
  
Query OK, 0 rows affected, 1 warning (0.92 sec)  
  
Query OK, 6 rows affected (0.00 sec)  
Records: 6 Duplicates: 0 Warnings: 0
```

10. Restart Apache server

- `sudo systemctl restart apache2`