

## Assignment - 4

### Question 4: Download and Install MySQL Database

#### Shell script to install MySQL Database:

```
prarthana1305@Prarthana: ~  
prarthana1305@Prarthana:~$ nano install_mysql.sh  
prarthana1305@Prarthana:~$ chmod +x install_mysql.sh  
prarthana1305@Prarthana:~$ ./install_mysql.sh  
Updating package list...  
Hit:1 https://download.docker.com/linux/ubuntu noble InRelease  
Hit:2 http://archive.ubuntu.com/ubuntu noble InRelease  
Hit:3 http://archive.ubuntu.com/ubuntu noble-updates InRelease  
Hit:4 http://security.ubuntu.com/ubuntu noble-security InRelease  
Hit:5 http://archive.ubuntu.com/ubuntu noble-backports InRelease  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
12 packages can be upgraded. Run 'apt list --upgradable' to see them.  
Installing MySQL Server...  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
The following additional packages will be installed:  
  libbailt64 libcgi-fast-perl libcgi-pm-perl libclone-perl libencode-locale-perl libevent-pthreads-2.1-7t64 libfcgi-bin libfcgi-perl libfcgi0t64  
  libhtml-parser-perl libhtml-tagset-perl libhtml-template-perl libhttp-date-perl libhttp-message-perl libio-html-perl liblwp-mediatypes-perl libmecab2  
  libnumal libprotobuf-lite32t64 libtimedate-perl liburi-perl mecab-ipadic mecab-ipadic-utf8 mecab-utils mysql-client-8.0 mysql-client-core-8.0  
  mysql-common mysql-server mysql-server-8.0 mysql-server-core-8.0  
Suggested packages:  
  libdata-dump-perl libipc-sharedcache-perl libio-compress-brotli-perl libbusiness-isbn-perl libregexp-ipv6-perl libwww-perl mailx tinycal  
The following NEW packages will be installed:  
  libbailt64 libcgi-fast-perl libcgi-pm-perl libclone-perl libencode-locale-perl libevent-pthreads-2.1-7t64 libfcgi-bin libfcgi-perl libfcgi0t64  
  libhtml-parser-perl libhtml-tagset-perl libhtml-template-perl libhttp-date-perl libhttp-message-perl libio-html-perl liblwp-mediatypes-perl libmecab2  
  libnumal libprotobuf-lite32t64 libtimedate-perl liburi-perl mecab-ipadic mecab-ipadic-utf8 mecab-utils mysql-client-8.0 mysql-client-core-8.0  
  mysql-common mysql-server mysql-server-8.0 mysql-server-core-8.0  
0 upgraded, 30 newly installed, 0 to remove and 12 not upgraded.  
Need to get 29.6 MB of archives.  
After this operation, 243 MB of additional disk space will be used.  
Get:1 http://archive.ubuntu.com/ubuntu noble/main amd64 mysql-common all 5.8+1.1.0build1 [6746 B]  
Get:2 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 mysql-client-core-8.0 amd64 8.0.40-0ubuntu0.24.04.1 [2765 kB]  
Get:3 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 mysql-client-8.0 amd64 8.0.40-0ubuntu0.24.04.1 [22.5 kB]  
Get:4 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 libbailt64 amd64 0.3.113-6build1.1 [7210 B]  
Get:5 http://archive.ubuntu.com/ubuntu noble/main amd64 libevent-pthreads-2.1-7t64 amd64 2.1.12-stable-9ubuntu2 [7982 B]  
Get:6 http://archive.ubuntu.com/ubuntu noble/main amd64 libmecab2 amd64 0.996-14ubuntu4 [201 kB]  
Get:7 http://archive.ubuntu.com/ubuntu noble/main amd64 libnumal amd64 2.0.18-1build1 [23.3 kB]  
Get:8 http://archive.ubuntu.com/ubuntu noble/main amd64 libprotobuf-lite32t64 amd64 3.21.12-8.2build1 [238 kB]  
Get:9 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 mysql-server-core-8.0 amd64 8.0.40-0ubuntu0.24.04.1 [17.5 MB]  
mysql-server-8.0 mysql-server-core-8.0 mysql-client-8.0 mysql-client-core-8.0
```

#### Executing shell scripts:

```
prarthana1305@Prarthana: ~  
GNU nano 7.2 install_mysql.sh *  
#!/bin/bash  
  
# Update package list  
echo "Updating package list..."  
sudo apt update -y  
  
# Install MySQL Server  
echo "Installing MySQL Server..."  
sudo apt install -y mysql-server  
  
# Enable and start MySQL service  
echo "Enabling and starting MySQL service..."  
sudo systemctl enable mysql  
sudo systemctl start mysql  
  
# Check MySQL status  
echo "Checking MySQL service status..."  
sudo systemctl status mysql --no-pager  
  
# Verify MySQL installation  
mysql_version=$(mysql --version 2>/dev/null)  
  
if [ -z "$mysql_version" ]; then  
  echo "MySQL installation failed."  
else  
  echo "MySQL installed successfully: $mysql_version"  
fi  
|  
  
⌘ Help ⌘ Write Out ⌘ Where Is ⌘ Cut ⌘ Execute ⌘ Location ⌘ Undo ⌘ Set Mark ⌘ To Bracket  
⌘ Exit ⌘ Read File ⌘ Replace ⌘ Paste ⌘ Justify ⌘ Go To Line ⌘ Redo ⌘ Copy ⌘ Where Was
```

## Check the version of MySQL(if installed):

```
prarthana1305@Prarthana: ~  
reading /usr/share/mecab/dic/ipadic/Moun.others.csv ... 151  
emitting double-array: 100% |#####|  
reading /usr/share/mecab/dic/ipadic/matrix.def ... 1316x1316  
emitting matrix : 100% |#####|  
  
done!  
update-alternatives: using /var/lib/mecab/dic/ipadic-utf8 to provide /var/lib/mecab/dic/debian (mecab-dictionary) in auto mode  
Setting up libhtml-parser-perl:amd64 (3.81-1build3) ...  
Setting up libhttp-message-perl (6.45-1ubuntu1) ...  
Setting up mysql-server-8.0 (8.0.40-0ubuntu0.24.04.1) ...  
update-alternatives: using /etc/mysql/mysql.cnf to provide /etc/mysql/my.cnf (my.cnf) in auto mode  
Renaming removed key_buffer and myisam-recover options (if present)  
mysqld will log errors to /var/log/mysql/error.log  
mysqld is running as pid 3029  
Created symlink /etc/systemd/system/multi-user.target.wants/mysql.service → /usr/lib/systemd/system/mysql.service.  
Setting up libcgi-pm-perl (4.63-1) ...  
Setting up libhtml-template-perl (2.97-2) ...  
Setting up mysql-server (8.0.40-0ubuntu0.24.04.1) ...  
Setting up libcgi-fast-perl (1:2.17-1) ...  
Processing triggers for man-db (2.12.0-4build2) ...  
Processing triggers for libc-bin (2.39-0ubuntu8.3) ...  
Enabling and starting MySQL service...  
Synchronizing state of mysql.service with SysV service script with /usr/lib/systemd/systemd-sysv-install.  
Executing: /usr/lib/systemd/systemd-sysv-install enable mysql  
Checking MySQL service status...  
● mysql.service - MySQL Community Server  
   Loaded: loaded (/usr/lib/systemd/system/mysql.service; enabled; preset: enabled)  
   Active: active (running) since Wed 2025-01-29 17:58:11 UTC; 3s ago  
     Main PID: 3209 (mysqld)  
    Status: "Server is operational"  
      Tasks: 38 (limit: 9124)  
    Memory: 369.3M (-)  
    CGroup: /system.slice/mysql.service  
            └─3209 /usr/sbin/mysqld  
  
Jan 29 17:58:10 Prarthana systemd[1]: Starting mysql.service - MySQL Community Server...  
Jan 29 17:58:11 Prarthana systemd[1]: Started mysql.service - MySQL Community Server.  
MySQL installed successfully: mysql Ver 8.0.40-0ubuntu0.24.04.1 for Linux on x86_64 ((Ubuntu))  
prarthana1305@Prarthana:~$ mysql --version  
mysql Ver 8.0.40-0ubuntu0.24.04.1 for Linux on x86_64 ((Ubuntu))
```

## Summary of the Approach

The script automates the installation and setup of MySQL Server on a Linux system using apt package management.

### Steps and Commands:

1. Update package list (sudo apt update -y)
2. Ensures the system has the latest package information before installation.  
Install MySQL Server (sudo apt install -y mysql-server)
3. Installs MySQL Server without prompting for confirmation (-y flag).  
Enable and Start MySQL Service (sudo systemctl enable mysql && sudo systemctl start mysql)
4. enable ensures MySQL starts on boot.  
start runs MySQL immediately.  
Check MySQL Status (sudo systemctl status mysql --no-pager)

5. Verifies if the MySQL service is running.

Verify MySQL Installation (`mysql --version`)

6. Checks if MySQL was installed successfully.

Make Script Executable (`chmod +x install_mysql.sh`)

7. Grants execution permission to the script.

Run the Script (`./install_mysql.sh`)

Executes the installation script.