

Programs in MySQL

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Introduction to MySQL

- ★ MySQL is an open-source relational database management system (RDBMS) that stores and manages data efficiently.
- ★ It provides various server programs to handle database operations, administration, and maintenance.
- ★ MySQL server programs are essential for:
 - Running the database server.
 - Managing database services.
 - Performing backups and administrative tasks.
 - Providing secure and efficient access to data.

Introduction to MySQL Server Programs

★ Key MySQL server programs include:

- mysqld (MySQL Server Daemon)
- mysql.server (Startup Script for System Services)
- mysqladmin (Administrative Client)
- mysql (Command-Line Client)
- mysqldump (Backup Utility)

mysqld - The MySQL Server Daemon

- ★ The core MySQL server program.
- ★ Runs in the background and listens for client connections.
- ★ Must be running for client programs to access databases.
- ★ Check if running:

```
ps aux | grep mysqld
```

mysql.server - System Startup Script

- ★ Used in system service management (init.d or systemd).
- ★ Start and stop MySQL as a service:

```
/etc/init.d/mysql.server start  
/etc/init.d/mysql.server stop
```

- ★ Systemd commands:

```
systemctl start mysql  
systemctl stop mysql
```

mysql - The Command-Line Client

- ★ Used to interact with MySQL databases.
- ★ Connect to MySQL: `mysql -u root -p`
- ★ Run SQL commands interactively.

mysqladmin - Administrative Client

- ★ Used for MySQL administration tasks.
- ★ Check server status:

```
mysqladmin -u root -p status
```

- ★ Shutdown MySQL:

```
mysqladmin -u root -p shutdown
```

mysqldump - Database Backup Utility

- ★ Used to create database backups.

- ★ Backup a database:

```
mysqldump -u root -p mydatabase > backup.sql
```

- ★ Restore from backup:

```
mysql -u root -p mydatabase < backup.sql
```