**Extra Details**

Server System Variables Variables Details - [ClickHere](https://stackoverflow.com/questions/11754781/how-to-declare-a-variable-in-mysql)

**SHOW** VARIABLES;

**SHOW** VARIABLES LIKE `%engine%`;

SELECT @@sort\_buffer\_size;

Two ways to set ServerSystemVariable 1. Optionfile , 2.CommandLine Way

-- Syntax to Set value to a Global variable:

**SET GLOBAL** sort\_buffer\_size=1000000;

**SET @@global.sort\_buffer\_size**=1000000;

-- Syntax to Set value to a Session variable:

**SET sort\_buffer\_size**=1000000;

**SET SESSION sort\_buffer\_size**=1000000;

**SET @@sort\_buffer\_size**=1000000;

**SET @@local.sort\_buffer\_size**=10000;

**DATABASE**

**Remember**

Always edit comments ticks, incase you copy and paste

1.1 Creating Database (Default Values)

**CREATE DATABASE** schoolinfo;

1.2 Creating Database (with args character set, collation)

**CREATE DATABASE** schoolinfo \

**character \**

**set**=’[utf8mb4](https://dev.mysql.com/doc/refman/8.0/en/charset-unicode-utf8mb4.html)’ **collate**=’utf8mb4\_general\_ci’ **comment**=’School Information’;

2.1 Selecting Databases

**SHOW DATABASES**;

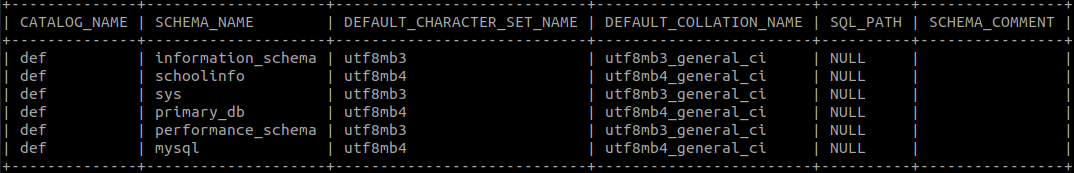
**USE** information\_schema;

**SHOW TABLES**;

**SELECT** \* **FROM** schemata;

OR

2.2 **SELECT** \* FROM **information\_schema**.schemata;



1. **ALTER DATABASE**

**ALTER DATABASE** schoolinfo **collate**=`utf8mb4\_unicode\_ci`;

1. **DROP DATABASE**

**DROP DATABASE** schoolinfo;

**USER**

1. Create New **USER** for **HOST**

SYNTAX

**CREATE USER** ‘USERNAME’**@**’HOSTNAME’ **IDENTIFIED BY** ‘PASSWORD’;

Example (user for all hosts %)

**CREATE USER** ‘schooladmin’**@**’%’ **IDENTIFIED BY** ‘schooladminpass’

1. Grant Privileges to User

**Administrative privileges** allow users to manage the operations of the MySQL server itself, including the privileges of other users. Also known as global privileges. (WITH GRANT OPTION)

**Database privileges** allow users to manage a specific database and all the objects within that database. These can be granted globally or only for specific databases. (DATABASE.\*)

**Database object privileges** allow users to manage specific objects within databases. These privileges can be granted for specific objects within a database, for an entire database, or globally. (DATABASE.TABLENAME)

SYNTAX

**GRANT PRIVILEGES** **ON** DATABASE.TABLE **TO** ‘USERNAME’@’HOSTNAME’ ;

**GRANT PRIVILEGES** **ON** DATABASE.TABLE **TO** ‘USERNAME’@’HOSTNAME’ **WITH GRANT OPTION** ;

**Example 1 ( **schoolinfo.\*** is used to specify Database level privileges )**

**GRANT ALL PRIVILEGES** **ON** schoolinfo.\* **TO** ‘schooladmin’@’%’ **WITH** **GRANT OPTION**;

**Example 2 ( \*.\* is used to specify Global level privileges )**

**GRANT CREATE,DROP,ALTER,DESCRIBE** **ON** \*.\* **TO** ‘schooladmin’@’%’ **WITH** **GRANT OPTION**;

**Example 3 ( **schoolinfo**.**employees** is used to specify Table level privileges )**

**GRANT ALL PRIVILEGES** **ON** schoolinfo.employees **TO** ‘schooladmin’@’%’ **WITH** **GRANT OPTION**;

**Table**

**Login using new user**

**mariadb** **-u**schooladmin **-p**schooladminpass;

**Check Allowed Databases**

**SHOW** databases;

**Select required Database**

**USE** DatabaseName;

**Check Allowed Tables**

**SHOW** tables;

**Create New Table**

**CREATE TABLE** TABLE\_NAME (ColumnName1 Datatype, ColumnName2 Datatype);

Example1

**CREATE TABLE** Employees ( \

id **int primary key auto\_increment**, \

employeeId **int unique key,** \

firstName **varchar(30) not null,** \

lastName **varchar(30),** \

birthDate **date** \

**);**

**Sample Data**

**Minimum Requirement** for pod (mariadb-sts)

**500Mi** (memory), **500m** (cpu)

**Copy Data** from **local machine** to **pod** in k8s cluster

**kubectl** **cp** /home/linuxdavi/test\_db-master.tar.xz podName:Location/in/pod/

**Login** to pod

**kubectl** **exec** -it podName -- bash

**Extract** the test\_db-master.tar.xz

**Remember**

OOMKilled Error Occured

Out of memory

Provide more memory to pod

restart pod and try again

**tar** -xvf test\_db-master.tar.xz

**Change directory** to test\_db-master

**cd** test\_db-master

**Inject** sql query via file to **mariadb-client**

**mariadb** -uroot -pmypass < employees.sql

Try some command

Q - Develop a query of fetching out current Managers with there fullname, hireDate, from\_date,employee number and filter manager by there name have ‘G’ alphabet in there name, and hiredate is greater than 1990-1-1

then order in decreasing hire\_date

ANS -

1. Create a view for department manager with there name

**dm** - alias of table ( dept\_manger )

**e** - alias of table ( employees )

**CREATE VIEW** dept\_manager\_view **AS**

**(**

**SELECT**

**e**.emp\_no,

dept\_no,

**concat(e**.first\_name,' ',**e**.last\_name**)** **AS** ManagerName,

gender,

hire\_date,

from\_date **FROM** dept\_manager **dm**

**INNER JOIN** employees **e** **ON** **e**.emp\_no=**dm**.emp\_no

**);**

1. Creating query

**SELECT**

**dmv.**emp\_no,

**dvm** - alias of view ( dept\_manger\_view )

**d** - alias of table ( departments )

**dmv.**dept\_no,

**dmv.**ManagerName,

**dmv.**gender,

**dmv.**hire\_date,

**dmv.**from\_date,

**d.**dept\_name,

**TIMESTAMPDIFF(YEAR**,hire\_date**,**from\_date**) AS** WORK\_EXPERIENCE

**FROM** dept\_manager\_view **dmv**

**INNER JOIN** departments **d**

**ON d.**dept\_no**=**dmv.dept\_no

**WHERE** hire\_date**>**"1990-1-1" **AND** ManagerName **LIKE** "%Gh%"

**ORDER BY** hire\_date **DESC**;

OR using Subquery (skip creating View)

**SELECT**

**dmv.**emp\_no,**dmv.**dept\_no,**dmv.**ManagerName,**dmv.**gender,**dmv.**hire\_date,**dmv.**from\_date,**d.**dept\_name,

**TIMESTAMPDIFF(YEAR**,hire\_date**,**from\_date**) AS** WORK\_EXPERIENCE **FROM**

(

**SELECT** **e**.emp\_no,dept\_no,**concat(e**.first\_name,' ',**e**.last\_name**)** **AS** ManagerName,

gender,hire\_date,from\_date **FROM** dept\_manager **dm**

**INNER JOIN** employees **e** **ON** **e**.emp\_no=**dm**.emp\_no

) **dmv**

**INNER JOIN** departments **d** **ON d.**dept\_no**=**dmv.dept\_no

**WHERE** hire\_date**>**"1990-1-1" **AND** ManagerName **LIKE** "%Gh%"

**ORDER BY** hire\_date **DESC**;

**References**

1. **Tutorial** [ClickMe](https://www.youtube.com/watch?v=8rC_FsQX7xo&list=PL3bGLnkkGnuUOB9YjjVDty6aCJApvkw8O&index=3)
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3. Mariadb **Replication** [ClickMe](https://mariadb.org/mariadb-k8s-how-to-replicate-mariadb-in-k8s/)
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6. How to **alter Privileges** [ClickMe](https://docs.digitalocean.com/products/databases/mysql/how-to/modify-user-privileges/)
7. **Sample Data1** (Employees) [Link1](https://dev.mysql.com/doc/employee/en/employees-installation.html) [Link2](https://github.com/datacharmer/test_db) (Recomended)
8. **Sample DataALL** [ClickME](https://www3.ntu.edu.sg/home/ehchua/programming/sql/SampleDatabases.html)