MySQL Installation Guide (Linux)

Step 1 - Installing MySQL

To install it, simply update the package index on your server and install the default package with apt-get.

$ sudo apt-get update
$ sudo apt-get install mysql-server

You'll be prompted to create a root password during the installation. Choose a secure one and make sure you remember it, because you'll need it later. Next, we'll finish configuring MySQL.

Step 2: Configuring MySQL

Run the security script.

$ mysql_secure_installation

This will prompt you for the root password you created in Step 1. You can press Y and then ENTER to accept the defaults for all the subsequent questions, with the exception of the one that asks if you'd like to change the root password. You just set it in Step 1, so you don't have to change it now.

Step 3: Testing MySQL

To test MySQL, check its status.

$ systemctl status mysql.service

You'll see output similar to the following:

● mysql.service - MySQL Community Server
   Loaded: loaded (/lib/systemd/system/mysql.service; enabled; vendor preset: en
   Active: active (running) since Wed 2016-11-23 21:21:25 UTC; 30min ago
   Main PID: 3754 (mysqld)
   Tasks: 28
   Memory: 142.3M
   CPU: 1.994s
   CGroup: /system.slice/mysql.service
   └─3754 /usr/sbin/mysqld
**Step 4 - Instal MySQL Workbench**

Update repositories and upgrade if necessary by typing the following line into the terminal:
$ sudo apt update && sudo apt upgrade

Install MySQL Workbench using the APT package manager:
$ sudo apt install mysql-workbench

**Step 5 - Launch MySQL**

1. Launch MySQL Workbench from the terminal:
   $ mysql-workbench

   Double click “Local instance 3306” to connect to the instance. Provide the root password when prompted for it.

   If you don’t see a connection, you can create it by clicking “+” button and referencing the following window. You need to provide the connection name and the password by clicking “Store in Vault”. You can click “Test connection” to see whether it works fine or not.
2. You will see the following window.
Step6- Create a Database and Tables, and Insert tuples

Given below is the schema for the example data. There are three tables.

- Boats (bid, bname, color)
- Reserves (sid, bid, date)
- Sailors (sid, sname, rating, age)

The field types are as follows:

bid: INTEGER, bname: VARCHAR, color: VARCHAR,

sid: INTEGER, bid: INTEGER, date: date,

sname: VARCHAR, rating: INTEGER, age: DECIMAL

Also, there are Boats2, Reserves2, and Sailors2 table. These will contain slightly different data on the same schema to help you to practice SQL statements.

The following scripts will be used to create the schema named “cs122a”, three tables, and populate some data. The script is also available on the class Web page.

```sql
-- The Begin of the script
CREATE DATABASE IF NOT EXISTS `cs122a` DEFAULT CHARACTER SET latin1;
USE `cs122a`;

-- Table structure for table `Boats`
DROP TABLE IF EXISTS `Boats`;
CREATE TABLE `Boats` (  
  `bid` int(11) NOT NULL,  
  `bname` varchar(45) DEFAULT NULL,  
  `color` varchar(15) DEFAULT NULL,  
  PRIMARY KEY (`bid`)  
) ENGINE=InnoDB DEFAULT CHARSET=latin1;

-- Dumping data for table `Boats`
ALTER TABLE `Boats` DISABLE KEYS;
INSERT INTO `Boats` VALUES
  (101,'Interlake','blue'),(102,'Interlake','red'),(103,'Clipper','green'),(104,'Marine','red');
ALTER TABLE `Boats` ENABLE KEYS;

-- Table structure for table `Boats2`
DROP TABLE IF EXISTS `Boats2`;
CREATE TABLE `Boats2` (  
  `bid` int(11) NOT NULL,  
  `bname` varchar(45) DEFAULT NULL,  
  PRIMARY KEY (`bid`)  
) ENGINE=InnoDB DEFAULT CHARSET=latin1;

-- Dumping data for table `Boats2`
ALTER TABLE `Boats2` DISABLE KEYS;
INSERT INTO `Boats2` VALUES
  (101,'Interlake','blue'),(102,'Interlake','red'),(103,'Clipper','green'),(104,'Marine','red');
ALTER TABLE `Boats2` ENABLE KEYS;

```

```
\`
color` varchar(15) DEFAULT NULL,
PRIMARY KEY (`bid`)
) ENGINE=InnoDB DEFAULT CHARSET=latin1;

-- Dumping data for table `Boats2`
ALTER TABLE `Boats2` DISABLE KEYS;
INSERT INTO `Boats2` VALUES
(103,'Clipper','green'),(104,'Marine','red'),(105,'InterClipper','blue'),(106,'InterMarine','red');
ALTER TABLE `Boats2` ENABLE KEYS;

-- Table structure for table `Reserves`
DROP TABLE IF EXISTS `Reserves`;
CREATE TABLE `Reserves` (
    `sid` int(11) DEFAULT NULL,
    `bid` int(11) DEFAULT NULL,
    `date` date DEFAULT NULL
) ENGINE=InnoDB DEFAULT CHARSET=latin1;

-- Dumping data for table `Reserves`
ALTER TABLE `Reserves` DISABLE KEYS;
INSERT INTO `Reserves` VALUES
(22,101,'1998-10-10'),(22,102,'1998-10-10'),(22,103,'1998-10-08'),(22,104,'1998-10-07'),(31,102,'1998-11-06'),(31,103,'1998-11-12'),(64,101,'1998-09-05'),(64,102,'1998-09-08'),(74,103,'1998-09-08'),(NULL,104,'1998-09-09'),(1,NULL,'2001-01-11'),(1,NULL,'2002-02-02');
ALTER TABLE `Reserves` ENABLE KEYS;

-- Table structure for table `Reserves2`
DROP TABLE IF EXISTS `Reserves2`;
CREATE TABLE `Reserves2` (
    `sid` int(11) DEFAULT NULL,
    `bid` int(11) DEFAULT NULL,
    `date` date DEFAULT NULL
) ENGINE=InnoDB DEFAULT CHARSET=latin1;

-- Dumping data for table `Reserves2`
ALTER TABLE `Reserves2` DISABLE KEYS;
INSERT INTO `Reserves2` VALUES
ALTER TABLE `Reserves2` ENABLE KEYS;

-- Table structure for table `Sailors`
DROP TABLE IF EXISTS `Sailors`;
CREATE TABLE `Sailors` (
    `sid` int(11) NOT NULL,
    `sname` varchar(45) NOT NULL,
    `rating` int(11) DEFAULT NULL,
-- Dumping data for table `Sailors`
ALTER TABLE `Sailors` DISABLE KEYS;
INSERT INTO `Sailors` VALUES
(22,'Dustin',7,45.0),(29,'Brutus',1,33.0),(31,'Lubber',8,55.5),(32,'Andy',8,25.5),(58,'Rusty',10,35.0),(64,'Horatio',7,35.0),(71,'Zorba',10,16.0),(74,'Horatio',9,35.0),(85,'Art',4,25.5),(95,'Bob',3,63.5),(101,'Joan',3,NULL),(107,'Johannes',NULL,35.0);
ALTER TABLE `Sailors` ENABLE KEYS;

-- Table structure for table `Sailors2`
DROP TABLE IF EXISTS `Sailors2`;
CREATE TABLE `Sailors2` (
  `sid` int(11) NOT NULL,
  `sname` varchar(45) NOT NULL,
  `rating` int(11) DEFAULT NULL,
  `age` decimal(5,1) DEFAULT NULL,
  PRIMARY KEY (`sid`)
) ENGINE=InnoDB DEFAULT CHARSET=latin1;

-- Dumping data for table `Sailors2`
ALTER TABLE `Sailors2` DISABLE KEYS;
INSERT INTO `Sailors2` VALUES
(22,'Dustin',7,45.0),(31,'Lubber',8,55.5),(64,'Horatio',7,35.0),(71,'Zorba',10,16.0),(74,'Horatio',9,35.0),(85,'Art',4,25.5),(95,'Bob',3,63.5),(101,'Joan',3,NULL),(107,'Johannes',NULL,35.0),(108,'Sandy',NULL,36.0),(109,'James',5,38.0);
ALTER TABLE `Sailors2` ENABLE KEYS;

-- The end of the script
1. In Query 1, copy and the paste the above script. If you can’t see “Query 1” tab, create one by clicking File -> New Query Tab. Execute the script by clicking “the thunder shaped icon”.

2. In the left pane, click “Refresh” button and you will see the “cs122a” schema and its Tables.
Step 7 - SQL queries

1. In order to form queries, type in the query in the ‘Query’ tab and click on the thunder shaped icon. You can execute the following query by choosing “File” -> “New Query Tab”, type “SELECT * FROM cs122a.Boats;”, and then click on the thunder shaped icon. You will see your results in the box below.

2. You can export the result into a CSV file by clicking “Export” button.