PART 1

1 DownloadMySQL server for your OS on VM.

**sudo apt install mysql-server -y**

2 Install MySQL server on VM.

**sudo mysql\_secure\_installation**

3 Select a subject area and describe the database schema, (minimum 3 tables)

**select \* from doctors;**

**select \* from patients;**

**select \* from professions;**

**select \* from professions where speciality='ginekology';**

**select \* from professions where id=3;**

**select \* from professions where id > 2;**

**select \* from doctors order by firstname;**

**select \* from doctors where firstname like 'doctor' and id < 3;**

**select \* from doctors group by id;**

**select \* from doctors group by LastName, id;**

1. Create a database on the server through the console.

5. Fill in tables.

**create table doctors (id integer auto\_increment Primary Key, LastName varchar(50), FirstName varchar(50));**

**create table patients (id integer auto\_increment Primary Key, LastName varchar(50), FirstName varchar(50));**

**create table professions (id integer auto\_increment Primary Key, Speciality varchar(50), Cabinet INT);**

**insert into doctors (lastname, firstname) values ('Chapayev', 'Vasiliy'), ('Zhivago', 'Doctor'), ('Avicenna', 'Doctor');**

**insert into patients (lastname, firstname) values ('Ivanov', 'Ivan'), ('Petrov', 'Petr'), ('Sidorov', 'Sidor'), ('Saveliev', 'Saveliy'), ('Mikhailov', 'Mikhail');**

**insert into professions (speciality, cabinet) values ('Ginekology', '101'), ('Pediatria', '102'), ('Otorinolaringology', '103'), ('Dermatology', '103'), ('surgery', '104');**

Construct and execute SELECT operator with WHERE, GROUP BY and ORDER BY

**mysql -u sammy -p**

**use kiyko**

**select \* from doctors;**

**create table testtable (id int, lastname varchar(50), firstname varchar (50));**

**quit**

1. Execute other different SQL queries DDL, DML, DCL.

8.Create a database of new users with different privileges. Connect to the databaseas a new user and verify that the privileges allow or deny certain actions.

**CREATE USER 'sammy'@'%' IDENTIFIED WITH mysql\_native\_password BY 'Passwd111!';**

**GRANT CREATE, ALTER on \*.\* TO 'sammy'@'%' WITH GRANT OPTION;**

**CREATE USER 'tommy'@'%' IDENTIFIED WITH mysql\_native\_password BY 'Passwd222!';**

**GRANT DROP, DELETE, SELECT on \*.\* TO 'tommy'@'%' WITH GRANT OPTION;**

**CREATE USER 'sally'@'%' IDENTIFIED WITH mysql\_native\_password BY 'Passwd333!';**

**GRANT SELECT on \*.\* TO 'sally'@'%' WITH GRANT OPTION;**

**CREATE USER 'johny'@'%' IDENTIFIED WITH mysql\_native\_password BY 'Passwd444!';**

**GRANT CREATE, ALTER, DROP, INSERT, UPDATE, DELETE, SELECT, REFERENCES, RELOAD on \*.\* TO 'johny'@'%' WITH GRANT OPTION;**

**FLUSH PRIVILEGES;**

**Quit**

9. Make a selection from the main table DB MySQL

use mysql

show tables;

SELECT user,authentication\_string,plugin,host FROM mysql.user;

select \* from db;

select \* from global\_grants;

**PART 2**

**mysqldump -u root -p kiyko > /home/kiykomi/kiyko\_base.sql**

**mysql -u root -p**

**drop table kiyko.patients;**

**show use kiyko;**

**show tables;**

**exit**

**mysql -u root -p kiyko < /home/kiykomi/kiyko\_base.sql**

**mysql -u root -p**

**use kiyko**

**show tables;**

**select \* from patients;**

**quit**

**mysql -u kyikomi -h database-kiyko.csgz8pbkwn5o.eu-central-1.rds.amazonaws.com -p123456Ss!**

**show databases;**

**create database kiyko;**

**show databases;**

**quit**

**mysql -u kyikomi -h database-kiyko.csgz8pbkwn5o.eu-central-1.rds.amazonaws.com -p123456Ss! kiyko < /home/kiykomi/kiyko\_base.sql**

**show databases;**

**use kiyko**

**show tables;**

**create table testtable1 (id integer auto\_increment Primary Key, lastname varchar(50), firstname varchar(50));**

**insert into testtable1 (lastname, firstname) values ('Ivanov', 'Ivan'), ('Petrov', 'Petr'), ('Sidorov', 'Sidor'), ('Saveliev', 'Saveliy'), ('Mikhailov', 'Mikhail');**

**select \* from testtable1;**

**quit**

**mysqldump -u kyikomi -h database-kiyko.csgz8pbkwn5o.eu-central-1.rds.amazonaws.com -p123456Ss! kiyko > /home/kiykomi/kiyko\_base\_RDS.sql**

**PART 3**

**To create new lines in table I use next construction:**

**{**

**"id": {**

**"N": "0"**

**},**

**"Lastname": {**

**"S": "Bonaparte"**

**},**

**"Firstname": {**

**"S": "Napoleon"**

**},**

**"Year-of-born": {**

**"S": "1769"**

**}**

**}**

**-- --------------------------------------------------------**

**-- Хост: 4.4.4.19**

**-- Версия сервера: 8.0.27-0ubuntu0.20.04.1 - (Ubuntu)**

**-- Операционная система: Linux**

**-- HeidiSQL Версия: 10.2.0.5599**

**-- --------------------------------------------------------**

**/\*!40101 SET @OLD\_CHARACTER\_SET\_CLIENT=@@CHARACTER\_SET\_CLIENT \*/;**

**/\*!40101 SET NAMES utf8 \*/;**

**/\*!50503 SET NAMES utf8mb4 \*/;**

**/\*!40014 SET @OLD\_FOREIGN\_KEY\_CHECKS=@@FOREIGN\_KEY\_CHECKS, FOREIGN\_KEY\_CHECKS=0 \*/;**

**/\*!40101 SET @OLD\_SQL\_MODE=@@SQL\_MODE, SQL\_MODE='NO\_AUTO\_VALUE\_ON\_ZERO' \*/;**

**-- Дамп структуры базы данных kiyko**

**CREATE DATABASE IF NOT EXISTS `kiyko` /\*!40100 DEFAULT CHARACTER SET utf8mb4 COLLATE utf8mb4\_0900\_ai\_ci \*/ /\*!80016 DEFAULT ENCRYPTION='N' \*/;**

**USE `kiyko`;**

**-- Дамп структуры для таблица kiyko.doctors**

**CREATE TABLE IF NOT EXISTS `doctors` (**

**`id` int NOT NULL AUTO\_INCREMENT,**

**`LastName` varchar(50) DEFAULT NULL,**

**`FirstName` varchar(50) DEFAULT NULL,**

**PRIMARY KEY (`id`),**

**UNIQUE KEY `ln\_index` (`LastName`),**

**UNIQUE KEY `unique\_LastName` (`LastName`)**

**) ENGINE=InnoDB AUTO\_INCREMENT=4 DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4\_0900\_ai\_ci;**

**-- Дамп данных таблицы kiyko.doctors: ~3 rows (приблизительно)**

**/\*!40000 ALTER TABLE `doctors` DISABLE KEYS \*/;**

**REPLACE INTO `doctors` (`id`, `LastName`, `FirstName`) VALUES**

**(1, 'Chapayev', 'Vasiliy'),**

**(2, 'Zhivago', 'Doctor'),**

**(3, 'Avicenna', 'Doctor');**

**/\*!40000 ALTER TABLE `doctors` ENABLE KEYS \*/;**

**-- Дамп структуры для таблица kiyko.patients**

**CREATE TABLE IF NOT EXISTS `patients` (**

**`id` int NOT NULL AUTO\_INCREMENT,**

**`LastName` varchar(50) DEFAULT NULL,**

**`FirstName` varchar(50) DEFAULT NULL,**

**PRIMARY KEY (`id`),**

**KEY `LastName` (`LastName`)**

**) ENGINE=InnoDB AUTO\_INCREMENT=6 DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4\_0900\_ai\_ci;**

**-- Дамп данных таблицы kiyko.patients: ~4 rows (приблизительно)**

**/\*!40000 ALTER TABLE `patients` DISABLE KEYS \*/;**

**REPLACE INTO `patients` (`id`, `LastName`, `FirstName`) VALUES**

**(1, 'Ivanov', 'Ivan'),**

**(2, 'Petrov', 'Petr'),**

**(3, 'Sidorov', 'Sidor'),**

**(4, 'Saveliev', 'Saveliy'),**

**(5, 'Mikhailov', 'Mikhail');**

**/\*!40000 ALTER TABLE `patients` ENABLE KEYS \*/;**

**-- Дамп структуры для таблица kiyko.professions**

**CREATE TABLE IF NOT EXISTS `professions` (**

**`id` int NOT NULL AUTO\_INCREMENT,**

**`Speciality` varchar(50) DEFAULT NULL,**

**`Cabinet` int DEFAULT NULL,**

**`doc\_id` int DEFAULT NULL,**

**PRIMARY KEY (`id`),**

**KEY `docid` (`doc\_id`),**

**KEY `Cabinet` (`Cabinet`),**

**CONSTRAINT `lnk\_doctors\_professions` FOREIGN KEY (`doc\_id`) REFERENCES `doctors` (`id`) ON DELETE CASCADE ON UPDATE CASCADE**

**) ENGINE=InnoDB AUTO\_INCREMENT=6 DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4\_0900\_ai\_ci;**

**-- Дамп данных таблицы kiyko.professions: ~5 rows (приблизительно)**

**/\*!40000 ALTER TABLE `professions` DISABLE KEYS \*/;**

**REPLACE INTO `professions` (`id`, `Speciality`, `Cabinet`, `doc\_id`) VALUES**

**(1, 'Ginekology', 101, 1),**

**(2, 'Pediatria', 102, 2),**

**(3, 'Otorinolaringology', 103, 2),**

**(4, 'Dermatology', 103, 3),**

**(5, 'surgery', 104, 1);**

**/\*!40000 ALTER TABLE `professions` ENABLE KEYS \*/;**

**/\*!40101 SET SQL\_MODE=IFNULL(@OLD\_SQL\_MODE, '') \*/;**

**/\*!40014 SET FOREIGN\_KEY\_CHECKS=IF(@OLD\_FOREIGN\_KEY\_CHECKS IS NULL, 1, @OLD\_FOREIGN\_KEY\_CHECKS) \*/;**

**/\*!40101 SET CHARACTER\_SET\_CLIENT=@OLD\_CHARACTER\_SET\_CLIENT \*/;**