

ICSI311: Өгөгдлийн сангийн систем

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Лабораторийн ажил №7: Backup

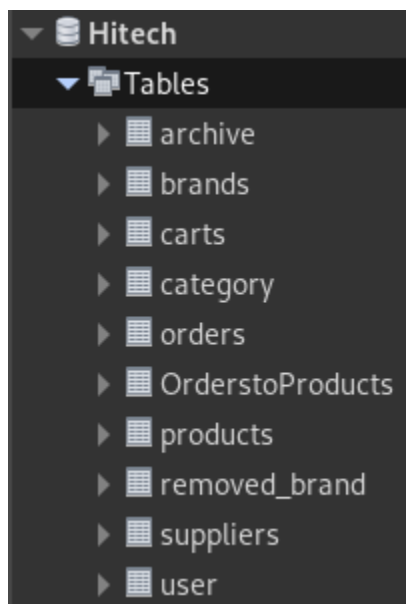
Багаар сонгон авсан өөрсдийн өгөгдлийн сан дээр дараах 3-н төрлөөр хөгжүүл:

- 1) Full Backup: Өгөгдлийн сангаа бүтнээр нь хадгалах бөгөөд файлын нэр нь он сар өдөр гэсэн тамгатай байна.
- 2) Partial Backup: Зөвхөн тодорхой хэдэн хүснэгтийг хадгална.
- 3) Copy command: Аль нэг 2 хүснэгтийг join хийгээд үр дүнгээ excel файл болгон хадгална.

Гарган ирсэн backup файлуудаас өгөгдлийн сангаа сэргээх командууд бич.

Сонгон авсан өгөгдлийн сан:

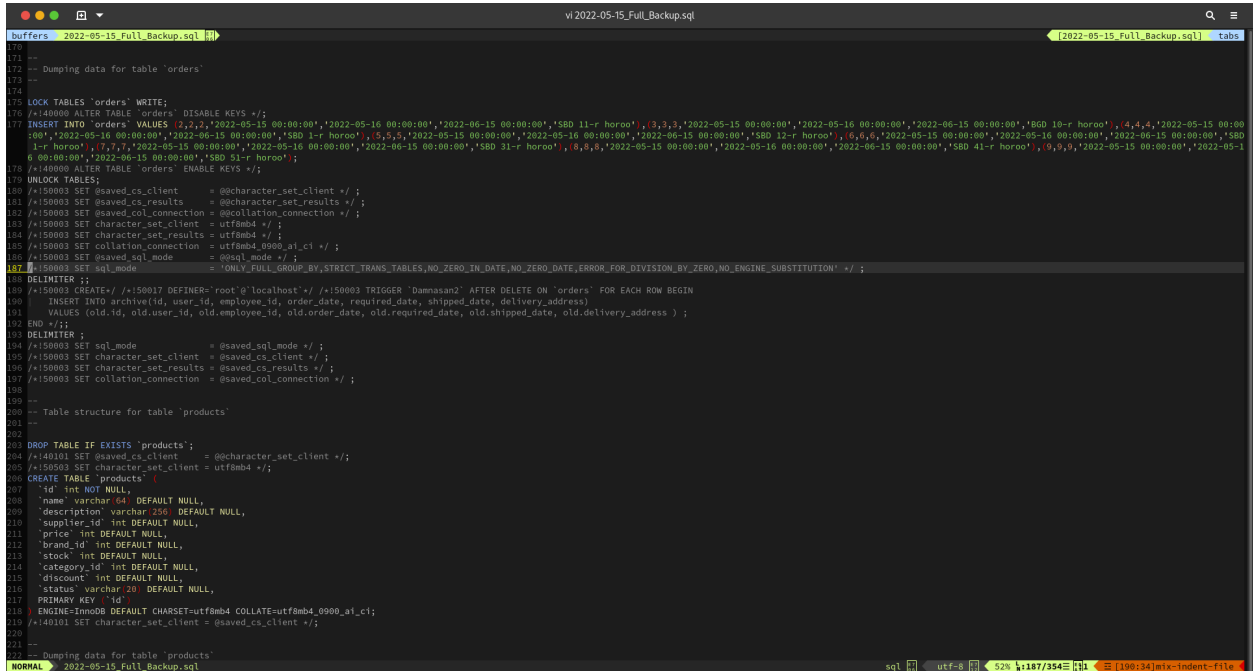
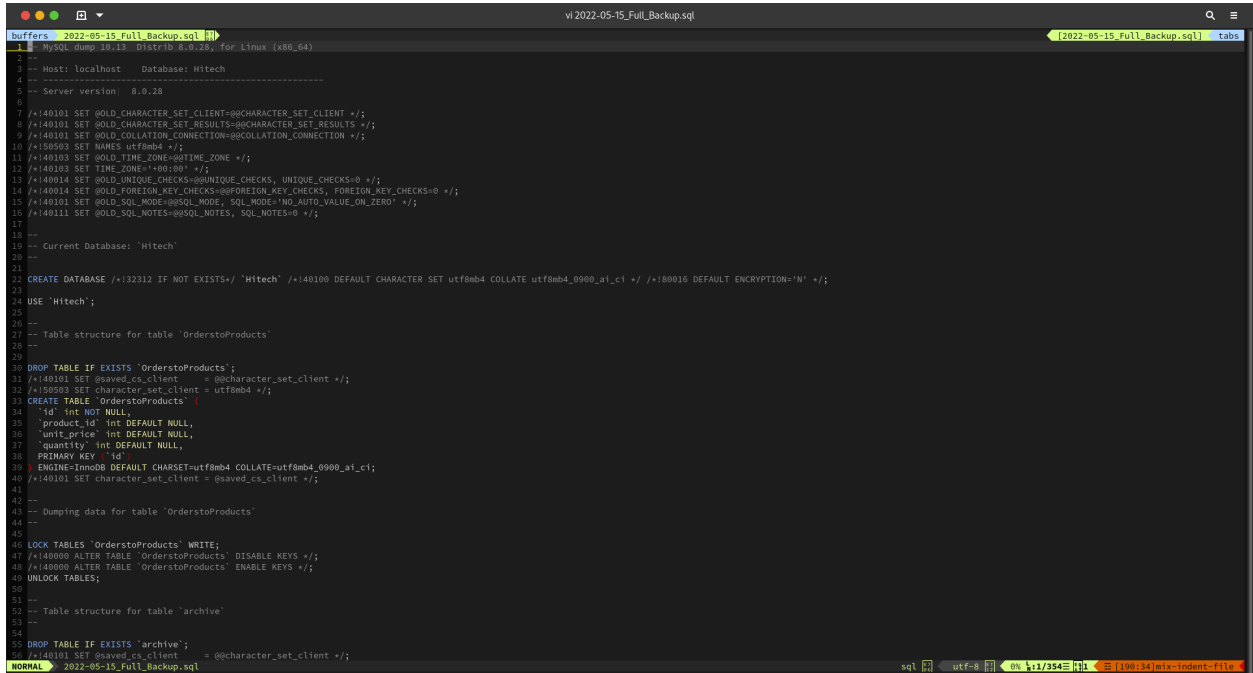
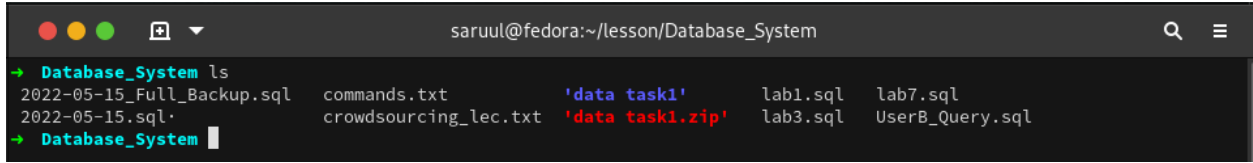
Өмнөх лаборатори дээр сонгон авч зохиосон hitech.mn платформын өгөгдлийн санг сонгон авсан.



Full Backup:

Өгөгдлийн сангаа бүтнээр нь хадгалах бөгөөд файлын нэр нь он сар өдөр гэсэн тамгатай байна.

```
mysqldump --add-drop-table -u root -p --databases Hitech >  
2022-05-15_FullBackup.sql
```



Partial Backup:

Зөвхөн тодорхой хэдэн хүснэгтийг хадгална.

```
mysqldump --add-drop-table -u root -p --databases Hitech --tables archive  
brands orders > 2022-05-15.sql
```

```
→ Database_System mysqldump --add-drop-table -u root -p --databases Hitech > 2022-05-15_Full_Backup.sql  
Enter password:  
→ Database_System ls  
2022-05-15_Full_Backup.sql  commands.txt  'data task1'  lab1.sql  lab7.sql  
2022-05-15.sql             crowdsourcing_lec.txt  'data task1.zip'  lab3.sql  UserB_Query.sql  
→ Database_System
```

```
vi 2022-05-15.sql  
--  
23 /*140101 SET @saved_cs_client = @@character_set_client */;  
24 /*150503 SET character_set_client = utf8mb4 */;  
25 CREATE TABLE 'archive'  
26 ('id' int NOT NULL,  
27 'user_id' int DEFAULT NULL,  
28 'employee_id' int DEFAULT NULL,  
29 'order_date' datetime DEFAULT NULL,  
30 'required_date' datetime DEFAULT NULL,  
31 'shipped_date' datetime DEFAULT NULL,  
32 'delivery_address' varchar(128) DEFAULT NULL,  
33 'time' timestamp NULL DEFAULT NULL,  
34 PRIMARY KEY ('id')  
35 ) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci;  
36 /*140101 SET character_set_client = @saved_cs_client */;  
37  
38 --  
39 -- Dumping data for table 'archive'  
40 --  
41  
42 LOCK TABLES 'archive' WRITE;  
43 /*140008 ALTER TABLE 'archive' DISABLE KEYS */;  
44 INSERT INTO 'archive' VALUES (1,1,'2022-04-25 00:00:00','2022-04-27 00:00:00','2022-04-26 00:00:00','BZD 11-r horoo',NULL,(2,2,2,'2022-05-15 00:00:00','2022-05-16 00:00:00','2022-06-15 00:00:00','SBD 11-r horoo',NULL),(3,3,3,'2022-05-15 00:00:00','2022-05-16 00:00:00','2022-06-15 00:00:00','BOD 10-r horoo',NULL),(4,4,4,'2022-05-15 00:00:00','2022-05-16 00:00:00','2022-06-15 00:00:00','SBD 1-r horoo',NULL),(5,5,5,'2022-05-15 00:00:00','2022-05-16 00:00:00','2022-06-15 00:00:00','SBD 12-r horoo',NULL),(6,6,6,'2022-05-15 00:00:00','2022-05-16 00:00:00','2022-06-15 00:00:00','SBD 1-r horoo',NULL),(7,7,7,'2022-05-15 00:00:00','2022-05-16 00:00:00','2022-06-15 00:00:00','SBD 31-r horoo',NULL),(8,8,8,'2022-05-15 00:00:00','2022-05-16 00:00:00','2022-06-15 00:00:00','SBD 41-r horoo',NULL),(9,9,9,'2022-05-15 00:00:00','2022-05-16 00:00:00','2022-06-15 00:00:00','SBD 51-r horoo',NULL);  
45 /*140008 ALTER TABLE 'archive' ENABLE KEYS */;  
46 UNLOCK TABLES;  
47  
48 --  
49 -- Table structure for table 'brands'  
50 --  
51  
52 DROP TABLE IF EXISTS 'brands';  
53 /*140101 SET @saved_cs_client = @@character_set_client */;  
54 /*150503 SET character_set_client = utf8mb4 */;  
55 CREATE TABLE 'brands'  
56 ('id' int NOT NULL,  
57 'name' varchar(64) DEFAULT NULL,  
58 'region' varchar(64) DEFAULT NULL,  
59 PRIMARY KEY ('id')  
60 ) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci;  
61 /*140101 SET character_set_client = @saved_cs_client */;  
62  
63 --  
64 -- Dumping data for table 'brands'  
65 --  
66  
67 LOCK TABLES 'brands' WRITE;  
68 /*140008 ALTER TABLE 'brands' DISABLE KEYS */;  
69 INSERT INTO 'brands' VALUES (1,'razer','chinese'),(2,'zowie','Taiwan'),(3,'sennheiser','german'),(4,'steelseries','america'),(5,'logitech','korean'),(6,'hyperx','mongolian'),(7,'corsair','sweden'),(8,'astro','chinese'),(9,'turtle beach','chinese'),(10,'apple','america'),(11,'saraul','tsover mongol');  
70 /*140008 ALTER TABLE 'brands' ENABLE KEYS */;  
71 UNLOCK TABLES;  
72  
73 --  
74 -- Table structure for table 'orders'  
75 --  
76  
77 NORMAL 2022-05-15.sql
```

```
vi 2022-05-15.sql
buffers 2022-05-15.sql [1]
77 DROP TABLE IF EXISTS `orders`;
78 /*140101 SET @saved_cs_client      = @@character_set_client */;
79 /*150503 SET character_set_client = utf8mb4 */;
80 CREATE TABLE `orders` (
81   `id` int NOT NULL,
82   `user_id` int DEFAULT NULL,
83   `employee_id` int DEFAULT NULL,
84   `order_date` datetime DEFAULT NULL,
85   `required_date` datetime DEFAULT NULL,
86   `shipped_date` datetime DEFAULT NULL,
87   `delivery_address` varchar(128) DEFAULT NULL,
88   PRIMARY KEY (`id`),
89   ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci;
90 /*140101 SET character_set_client = @saved_cs_client */;
91
92 --
93 -- Dumping data for table `orders`
94 --
95
96 LOCK TABLES `orders` WRITE;
97 /*140000 ALTER TABLE `orders` DISABLE KEYS */;
98 INSERT INTO `orders` VALUES (2,2,2,'2022-05-15 00:00:00','2022-05-16 00:00:00','2022-06-15 00:00:00','SBD 11-r horoo','1,3,3,3','2022-05-15 00:00:00','2022-05-16 00:00:00','2022-06-15 00:00:00','SBD 10-r horoo','1,4,4,4','2022-05-15 00:00:00','2022-05-16 00:00:00','2022-06-15 00:00:00','SBD 1-r horoo','1,5,5,5','2022-05-15 00:00:00','2022-05-16 00:00:00','2022-06-15 00:00:00','SBD 12-r horoo','1,6,6,6','2022-05-15 00:00:00','2022-05-16 00:00:00','2022-06-15 00:00:00','SBD 11-r horoo','1,7,7,7','2022-05-15 00:00:00','2022-05-16 00:00:00','2022-06-15 00:00:00','SBD 31-r horoo','1,8,8,8','2022-05-15 00:00:00','2022-05-16 00:00:00','2022-06-15 00:00:00','SBD 41-r horoo','1,9,9,9','2022-05-15 00:00:00','2022-05-16 00:00:00','2022-06-15 00:00:00','SBD 51-r horoo');
99 /*140000 ALTER TABLE `orders` ENABLE KEYS */;
100 UNLOCK TABLES;
101 /*150003 SET @saved_cs_client      = @@character_set_client */;
102 /*150003 SET @saved_cs_results     = @@character_set_results */;
103 /*150003 SET @saved_col_connection = @@collation_connection */;
104 /*150003 SET character_set_client   = utf8mb4 */;
105 /*150003 SET character_set_results = utf8mb4 */;
106 /*150003 SET collation_connection = utf8mb4_0900_ai_ci */;
107 /*150003 SET @saved_sql_mode       = @@sql_mode */;
108 /*150003 SET sql_mode              = 'ONLY_FULL_GROUP_BY,STRICT_TRANS_TABLES,NO_ZERO_IN_DATE,NO_ZERO_DATE,ERROR_FOR_DIVISION_BY_ZERO,NO_ENGINE_SUBSTITUTION' */;
109 DELIMITER ;;
110 CREATE TRIGGER `dammasan2` AFTER DELETE ON `orders` FOR EACH ROW BEGIN
111   INSERT INTO archive(id, user_id, employee_id, order_date, required_date, shipped_date, delivery_address)
112   VALUES (old.id, old.user_id, old.employee_id, old.order_date, old.required_date, old.shipped_date, old.delivery_address );
113 END ;;
114 DELIMITER ;
115 /*150003 SET sql_mode              = @saved_sql_mode */;
116 /*150003 SET character_set_client   = @saved_cs_client */;
117 /*150003 SET character_set_results = @saved_cs_results */;
118 /*150003 SET collation_connection = @saved_col_connection */;
119 /*140103 SET TIME_ZONE=@OLD_TIME_ZONE */;
120
121 /*140101 SET SQL_MODE=@OLD_SQL_MODE */;
122 /*140014 SET FOREIGN_KEY_CHECKS=@OLD_FOREIGN_KEY_CHECKS */;
123 /*140014 SET UNIQUE_CHECKS=@OLD_UNIQUE_CHECKS */;
124 /*140101 SET CHARACTER_SET_CLIENT=@OLD_CHARACTER_SET_CLIENT */;
125 /*140101 SET CHARACTER_SET_RESULTS=@OLD_CHARACTER_SET_RESULTS */;
126 /*140101 SET COLLATION_CONNECTION=@OLD_COLLATION_CONNECTION */;
127 /*140111 SET SQL_NOTES=@OLD_SQL_NOTES */;
128
129 -- Dump completed on 2022-05-15 16:08:33
130 NORMAL 2022-05-15.sql
```

Copy command:

Аль нэг 2 хүснэгтийг join хийгээд үр дүнгээ excel файл болгон хадгална.

```
→ Database_System mysql -u root -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 41
Server version: 8.0.28 MySQL Community Server - GPL

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owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> USE Hitech ;
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
mysql> SELECT user.*, orders.* FROM user LEFT JOIN orders ON user.id = orders.user_id LIMIT 5
-> INTO OUTFILE '/var/lib/mysql-files/Hitech_DB.csv'
-> FIELDS TERMINATED BY ','
-> OPTIONALLY ENCLOSED BY '"'
-> LINES TERMINATED BY '\n';
Query OK, 4 rows affected (0.00 sec)

mysql>
```

