

# Assignment No. 7

**Group ID:** 2018BCGRP10

**Batch:** T2

**PRN No:** 2018BTECS00072 & 2018BTECS00086

- **Title: Distributed Databases**
- **Aim:** To implement a distributed database for bookstores.

Consider a distributed database for a bookstore with 3 sites called site1, site2 and site3. Consider the following relations:

Books (ISBN, Author, Topic, TotalStock, Price)

BookStore (Storeno, City, State, ZipCode, InventoryValue)

Stock (Storeno, ISBN, Qty)

Total Stock is the total number of books in stock.

Now here in this distributed database for bookstore, we have fragmented the books according to the ISBN numbers into:

F1: Books: ISBN from 1001 to 1010

F2: Books: ISBN from 1021 to 1030

F3: Books: ISBN from 1031 to 1040

Similarly, Book Stores are divided according to their store number into

S1: BookStore: Storeno from 1 to 10

S2: BookStore: Storeno from 11 to 20

S3: BookStore: Storeno from 21 to 30

Perform

a. Now from Site3, we want to check on the total number of books available at each site

b. We are on site1 and we want to access the books on site3, site 2.

- c. From site 2, we want to check the available copies of particular book with an ISBN number in the bookstore. According to the ISBN number in which fragment it belongs, search in the respective database
- d. Get the list of all the books available in the bookstore from any site.
- e. Get the list of all the stores from any site.

- **Introduction:**

In a distributed database, there are a number of databases that may be geographically distributed all over the world. A distributed DBMS manages the distributed database in a manner so that it appears as one single database to users.

**Distributed Database:**

A **distributed database** is a collection of multiple interconnected databases, which are spread physically across various locations that communicate via a computer network.

**Features Of Distributed Databases:**

- Databases in the collection are logically interrelated with each other. Often they represent a single logical database.
- Data is physically stored across multiple sites. Data in each site can be managed by a DBMS independent of the other sites.
- The processors in the sites are connected via a network. They do not have any multiprocessor configuration.
- A distributed database is not a loosely connected file system.
- A distributed database incorporates transaction processing, but it is not synonymous with a transaction processing system.

**Advantages Of Distributed Databases:**

- **Modular Development** – If the system needs to be expanded to new locations or new units, in centralized database systems, the action requires substantial efforts and disruption in the existing functioning.
- **More Reliable** – In case of database failures, the total system of centralized databases comes to a halt. However, in distributed systems, when a component fails, the functioning of the system continues may be at a reduced performance. Hence DDBMS is more reliable.
- **Better Response** – If data is distributed in an efficient manner, then user requests can be met from local data itself, thus providing faster response.
- **Lower Communication Cost** – In distributed database systems, if data is located locally where it is mostly used, then the communication costs for data manipulation can be minimized.

- **Functional Block Diagram:**

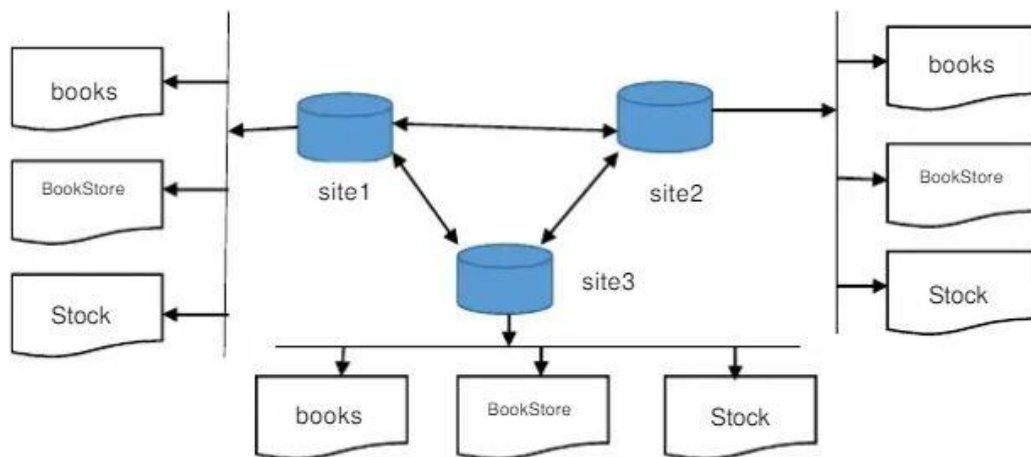


Fig. Distributed Database for book store

- **Screenshots Of Experiment:**  
**'Books' table from 'site1' database:**

MySQL Workbench

Assignment No.7

File Edit View Query Database Server Tools Scripting Help

Navigator

SCHEMAS

Filter objects

sakila  
 sys  
 world

Query 1

Limit to 1000 rows

SQL Additions

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

```

2
3 • USE site1;
4
5 • CREATE TABLE Books(ISBN int,Author varchar(30),Topic varchar(100),TotalStock int, Price int);
6
7 • INSERT INTO site1.Books values ('1001','A.P.J. Abdul Kalam','Wings Of Fire',20,500);
8 • INSERT INTO site1.Books values ('1002','Shivaji Sawant','Mrutyunjay',30,200);
9 • INSERT INTO site1.Books values ('1003','Shivaji Sawant','Chhava',50,400);
10 • INSERT INTO site1.Books values ('1004','Pu. L. Deshpande','Pulakit',10,350);
11 • INSERT INTO site1.Books values ('1005','Pu. L. Deshpande','Purachundi',25,500);
12 • INSERT INTO site1.Books values ('1006','Sane Gururji','Shyamchi Aai',30,400);
13
14 • SELECT * FROM Books;
15

```

Result Grid

ISBN	Author	Topic	TotalStock	Price
1001	A.P.J. Abdul Kalam	Wings Of Fire	20	500
1002	Shivaji Sawant	Mrutyunjay	30	200
1003	Shivaji Sawant	Chhava	50	400
1004	Pu. L. Deshpande	Pulakit	10	350
1005	Pu. L. Deshpande	Purachundi	25	500
1006	Sane Gururji	Shyamchi Aai	30	400

Books 1

Output

#	Time	Action	Message	Duration / Fetch
15	20:51:37	INSERT INTO site1.Books values ('1004','Pu. L. Deshpande','Pulakit',10,350)	1 row(s) affected	0.000 sec
16	20:51:41	INSERT INTO site1.Books values ('1005','Pu. L. Deshpande','Purachundi',25,500)	1 row(s) affected	0.016 sec
17	20:51:45	INSERT INTO site1.Books values ('1006','Sane Gururji','Shyamchi Aai',30,400)	1 row(s) affected	0.000 sec
18	20:51:51	SELECT * FROM Books LIMIT 0, 1000	6 row(s) returned	0.000 sec / 0.000 sec

Object Info Session

## 'BookStore' table from 'site1' database:

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Assignment No.7

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Navigator

SCHEMAS

Filter objects

sakila  
 sys  
 world

Query 1

Limit to 1000 rows

SQL Additions

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

```

13
14 • SELECT * FROM Books;
15
16 • CREATE TABLE BookStore(Storeno int,City varchar(30),State varchar(100),ZipCode int, InventoryValue int);
17
18 • INSERT INTO site1.BookStore values (1,'Sangli','Maharashtra',416416,3214);
19 • INSERT INTO site1.BookStore values (2,'Satara','Maharashtra',415415,4512);
20 • INSERT INTO site1.BookStore values (3,'Solapur','Maharashtra',414414,4253);
21 • INSERT INTO site1.BookStore values (4,'Bengaluru','Karnataka',700456,8294);
22 • INSERT INTO site1.BookStore values (5,'Pune','Maharashtra',418916,6544);
23
24 • SELECT * FROM site1.BookStore;
25
26 • CREATE TABLE Stock(Storeno int,ISBN varchar(30),Qty int);

```

Result Grid

Storeno	City	State	ZipCode	InventoryValue
1	Sangli	Maharashtra	416416	3214
2	Satara	Maharashtra	415415	4512
3	Solapur	Maharashtra	414414	4253
4	Bengaluru	Karnataka	700456	8294
5	Pune	Maharashtra	418916	6544

BookStore 2

Output

#	Time	Action	Message	Duration / Fetch
22	20:53:48	INSERT INTO site1.BookStore values (3,'Solapur','Maharashtra',414414,4253)	1 row(s) affected	0.016 sec
23	20:53:52	INSERT INTO site1.BookStore values (4,'Bengaluru','Karnataka',700456,8294)	1 row(s) affected	0.016 sec
24	20:53:55	INSERT INTO site1.BookStore values (5,'Pune','Maharashtra',418916,6544)	1 row(s) affected	0.000 sec
25	20:54:43	SELECT * FROM site1.BookStore LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec

Object Info Session

## 'Stock' table from 'site1' database:

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Assignment No.7

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SCHEMAS

Filter objects

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 sys  
 world

Query 1

Limit to 1000 rows

```

22 • INSERT INTO site1.BookStore values (5,'Pune','Maharashtra',418916,6544);
23
24 • SELECT * FROM site1.BookStore;
25
26 • CREATE TABLE Stock(Storeno int,ISBN varchar(30),Qty int);
27
28 • INSERT INTO site1.Stock values (1,'1001',85);
29 • INSERT INTO site1.Stock values (2,'1004',40);
30 • INSERT INTO site1.Stock values (3,'1006',25);
31 • INSERT INTO site1.Stock values (4,'1003',88);
32
33 • SELECT * FROM site1.Stock;
34
35 • CREATE DATABASE site2;

```

Result Grid

Storeno	ISBN	Qty
1	1001	85
2	1004	40
3	1006	25
4	1003	88

Stock 3

Output

Action Output

#	Time	Action	Message	Duration / Fetch
28	20:56:20	INSERT INTO site1.Stock values (2,'1004',40)	1 row(s) affected	0.000 sec
29	20:56:25	INSERT INTO site1.Stock values (3,'1006',25)	1 row(s) affected	0.000 sec
30	20:56:28	INSERT INTO site1.Stock values (4,'1003',88)	1 row(s) affected	0.000 sec
31	20:57:08	SELECT * FROM site1.Stock LIMIT 0, 1000	4 row(s) returned	0.000 sec / 0.000 sec

SQLAdditions

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## 'Books' table from 'site2' database:

MySQL Workbench

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Navigator

SCHEMAS

Filter objects

sakila  
 sys  
 world

Query 1

Limit to 1000 rows

```

37 • USE site2;
38
39 • CREATE TABLE Books(ISBN int,Author varchar(30),Topic varchar(100),TotalStock int, Price int);
40
41 • INSERT INTO site2.Books values ('1021','Shivaji Sawant','Yugandhar',40,200);
42 • INSERT INTO site2.Books values ('1022','Ranjeet Desai','Swami',38,600);
43 • INSERT INTO site2.Books values ('1023','Vishwas Patil','Mahanayak',75,450);
44 • INSERT INTO site2.Books values ('1024','Daya Pawar','Baluta',15,490);
45 • INSERT INTO site2.Books values ('1025','Laxman Mane','Upara',65,350);
46 • INSERT INTO site2.Books values ('1026','Sudha Murty','Aayushyache Dhade Giravtana',30,480);
47
48 • SELECT * FROM site2.Books;
49
50 • CREATE TABLE BookStore(Storeno int,City varchar(30),State varchar(100),ZipCode int, InventoryValue int);

```

Result Grid

ISBN	Author	Topic	TotalStock	Price
1021	Shivaji Sawant	Yugandhar	40	200
1022	Ranjeet Desai	Swami	38	600
1023	Vishwas Patil	Mahanayak	75	450
1024	Daya Pawar	Baluta	15	490
1025	Laxman Mane	Upara	65	350
1026	Sudha Murty	Aayushyache Dhade Giravtana	30	480

Books 4

Output

Action Output

#	Time	Action	Message	Duration / Fetch
38	20:59:16	INSERT INTO site2.Books values ('1024','Daya Pawar','Baluta',15,490)	1 row(s) affected	0.016 sec
39	20:59:19	INSERT INTO site2.Books values ('1025','Laxman Mane','Upara',65,350)	1 row(s) affected	0.015 sec
40	20:59:31	INSERT INTO site2.Books values ('1026','Sudha Murty','Aayushyache Dhade Giravtana',30,480)	1 row(s) affected	0.000 sec
41	21:01:06	SELECT * FROM site2.Books LIMIT 0, 1000	6 row(s) returned	0.000 sec / 0.000 sec

SQLAdditions

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

## 'BookStore' table from 'site2' database:

MySQL Workbench

Assignment No.7

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Navigator

SCHEMAS

Filter objects

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 sys  
 world

Query 1

Limit to 1000 rows

```

52 • INSERT INTO site2.BookStore values (11,'Chittor','Andhra Pradesh',586416,1441);
53 • INSERT INTO site2.BookStore values (12,'Deogarh','Odisha',284415,1221);
54 • INSERT INTO site2.BookStore values (13,'Amritsar','Panjab',600414,5335);
55 • INSERT INTO site2.BookStore values (14,'Gomati','Tripura',711456,9449);
56 • INSERT INTO site2.BookStore values (15,'Chamoli','Uttarakhand',418586,4444);
57
58 • SELECT * FROM site2.BookStore;
59
60 • CREATE TABLE Stock(Storeno int,ISBN varchar(30),Qty int);
61
62 • INSERT INTO site2.Stock values (11,'1023',15);
63 • INSERT INTO site2.Stock values (12,'1024',45);
64 • INSERT INTO site2.Stock values (13,'1022',65);
65 • INSERT INTO site2.Stock values (14,'1026',78);

```

Result Grid

Storeno	City	State	ZipCode	InventoryValue
11	Chittor	Andhra Pradesh	586416	1441
12	Deogarh	Odisha	284415	1221
13	Amritsar	Panjab	600414	5335
14	Gomati	Tripura	711456	9449
15	Chamoli	Uttarakhand	418586	4444

Administration Schemas

Information

Schema: world

Output

Action Output

#	Time	Action	Message	Duration / Fetch
45	21:02:36	INSERT INTO site2.BookStore values (13,'Amritsar','Panjab',600414,5335)	1 row(s) affected	0.015 sec
46	21:02:40	INSERT INTO site2.BookStore values (14,'Gomati','Tripura',711456,9449)	1 row(s) affected	0.000 sec
47	21:02:48	INSERT INTO site2.BookStore values (15,'Chamoli','Uttarakhand',418586,4444)	1 row(s) affected	0.000 sec
48	21:03:32	SELECT * FROM site2.BookStore LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec

Object Info Session

SQLAdditions

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

## ‘Stock’ table from ‘site2’ database:

MySQL Workbench

Assignment No.7

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Navigator

SCHEMAS

Filter objects

sakila  
 sys  
 world

Query 1

Limit to 1000 rows

```

56 • INSERT INTO site2.BookStore values (15,'Chamoli','Uttarakhand',418586,4444);
57
58 • SELECT * FROM site2.BookStore;
59
60 • CREATE TABLE Stock(Storeno int,ISBN varchar(30),Qty int);
61
62 • INSERT INTO site2.Stock values (11,'1023',15);
63 • INSERT INTO site2.Stock values (12,'1024',45);
64 • INSERT INTO site2.Stock values (13,'1022',65);
65 • INSERT INTO site2.Stock values (14,'1026',78);
66
67 • SELECT * FROM site2.Stock;
68
69 • CREATE DATABASE site3;

```

Result Grid

Storeno	ISBN	Qty
11	1023	15
12	1024	45
13	1022	65
14	1026	78

Administration Schemas

Information

Schema: world

Output

Action Output

#	Time	Action	Message	Duration / Fetch
51	21:05:12	INSERT INTO site2.Stock values (12,'1024',45)	1 row(s) affected	0.000 sec
52	21:05:17	INSERT INTO site2.Stock values (13,'1022',65)	1 row(s) affected	0.016 sec
53	21:05:19	INSERT INTO site2.Stock values (14,'1026',78)	1 row(s) affected	0.000 sec
54	21:06:13	SELECT * FROM site2.Stock LIMIT 0, 1000	4 row(s) returned	0.000 sec / 0.000 sec

Object Info Session

SQLAdditions

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

## ‘Books’ table from ‘site3’ database:



MySQL Workbench

Assignment No.7

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Navigator

SCHEMAS

Filter objects

sakila  
 sys  
 world

Query 1

```

71 • USE site3;
72
73 • CREATE TABLE Books (ISBN int, Author varchar(30), Topic varchar(100), TotalStock int, Price int);
74
75 • INSERT INTO site3.Books values ('1031','Vishnu Khandekar','Yayati',20,400);
76 • INSERT INTO site3.Books values ('1032','Bhalchandra Nemade','Kosala',56,550);
77 • INSERT INTO site3.Books values ('1033','Vishwas Patil','Panipat',58,350);
78 • INSERT INTO site3.Books values ('1034','Pu. L. Deshpande','Batatyachi Chaul',86,490);
79 • INSERT INTO site3.Books values ('1035','Achyut Godbole','Musafir',52,580);
80 • INSERT INTO site3.Books values ('1036','Ranjit Desai','Shreeman Yogi',18,970);
81
82 • SELECT * FROM site3.Books;
83
84 • CREATE TABLE BookStore (Storeno int, City varchar(30), State varchar(100), ZipCode int, InventoryValue int);

```

Result Grid

ISBN	Author	Topic	TotalStock	Price
1031	Vishnu Khandekar	Yayati	20	400
1032	Bhalchandra Nemade	Kosala	56	550
1033	Vishwas Patil	Panipat	58	350
1034	Pu. L. Deshpande	Batatyachi Chaul	86	490
1035	Achyut Godbole	Musafir	52	580
1036	Ranjit Desai	Shreeman Yogi	18	970

Books7

Output

Action Output

#	Time	Action	Message	Duration / Fetch
61	21:08:12	INSERT INTO site3.Books values ('1034','Pu. L. Deshpande','Batatyachi Chaul',86,490)	1 row(s) affected	0.000 sec
62	21:08:16	INSERT INTO site3.Books values ('1035','Achyut Godbole','Musafir',52,580)	1 row(s) affected	0.016 sec
63	21:08:20	INSERT INTO site3.Books values ('1036','Ranjit Desai','Shreeman Yogi',18,970)	1 row(s) affected	0.015 sec
64	21:08:55	SELECT * FROM site3.Books LIMIT 0, 1000	6 row(s) returned	0.000 sec / 0.000 sec

Object Info Session

SQLAdditions

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

## 'BookStore' table from 'site3' database:

MySQL Workbench

Assignment No.7

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Navigator

SCHEMAS

Filter objects

sakila  
 sys  
 world

Query 1

```

86 • INSERT INTO site3.BookStore values (21,'Balod','Chhattisgarh',416614,5751);
87 • INSERT INTO site3.BookStore values (22,'Arwal','Bihar',415514,9821);
88 • INSERT INTO site3.BookStore values (23,'Bokaro','Jharkhand',600006,5585);
89 • INSERT INTO site3.BookStore values (24,'Idukki','Kerala',654456,9547);
90 • INSERT INTO site3.BookStore values (25,'Rajkot','Gujarat',586586,9844);
91
92 • SELECT * FROM site3.BookStore;
93
94 • CREATE TABLE Stock (Storeno int, ISBN varchar(30), Qty int);
95
96 • INSERT INTO site3.Stock values (21,'1031',25);
97 • INSERT INTO site3.Stock values (22,'1032',45);
98 • INSERT INTO site3.Stock values (23,'1033',60);
99 • INSERT INTO site3.Stock values (24,'1034',71);

```

Result Grid

Storeno	City	State	ZipCode	InventoryValue
21	Balod	Chhattisgarh	416614	5751
22	Arwal	Bihar	415514	9821
23	Bokaro	Jharkhand	600006	5585
24	Idukki	Kerala	654456	9547
25	Rajkot	Gujarat	586586	9844

BookStore 8

Output

Action Output

#	Time	Action	Message	Duration / Fetch
68	21:10:05	INSERT INTO site3.BookStore values (23,'Bokaro','Jharkhand',600006,5585)	1 row(s) affected	0.000 sec
69	21:10:14	INSERT INTO site3.BookStore values (24,'Idukki','Kerala',654456,9547)	1 row(s) affected	0.016 sec
70	21:10:17	INSERT INTO site3.BookStore values (25,'Rajkot','Gujarat',586586,9844)	1 row(s) affected	0.000 sec
71	21:10:51	SELECT * FROM site3.BookStore LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec

Object Info Session

SQLAdditions

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

## 'Stock' table from 'site3' database:

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Navigator

SCHEMAS

Filter objects

sakila  
 sys  
 world

Query 1

Limit to 1000 rows

```

90 • INSERT INTO site3.BookStore values (25,'Rajkot','Gujarat',586586,9844);
91
92 • SELECT * FROM site3.BookStore;
93
94 • CREATE TABLE Stock(Storeno int,ISBN varchar(30),Qty int);
95
96 • INSERT INTO site3.Stock values (21,'1031',25);
97 • INSERT INTO site3.Stock values (22,'1032',45);
98 • INSERT INTO site3.Stock values (23,'1033',66);
99 • INSERT INTO site3.Stock values (24,'1034',71);
100
101 • SELECT * FROM site3.Stock;
102
103 • USE site3;

```

Result Grid

Storeno	ISBN	Qty
21	1031	25
22	1032	45
23	1033	66
24	1034	71

Administration Schemas

Information

Schema: world

Object Info Session

SQLAdditions

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

Output

Action Output

#	Time	Action	Message	Duration / Fetch
74	21:12:14	INSERT INTO site3.Stock values (22,'1032',45)	1 row(s) affected	0.016 sec
75	21:12:20	INSERT INTO site3.Stock values (23,'1033',66)	1 row(s) affected	0.016 sec
76	21:12:24	INSERT INTO site3.Stock values (24,'1034',71)	1 row(s) affected	0.000 sec
77	21:12:54	SELECT * FROM site3.Stock LIMIT 0, 1000	4 row(s) returned	0.000 sec / 0.000 sec

Now, from site3, we want to check on the total number of books available at each site:

MySQL Workbench

Assignment No.7

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Navigator

SCHEMAS

Filter objects

sakila  
 sys  
 world

Query 1

Limit to 1000 rows

```

96 • INSERT INTO site3.Stock values (21,'1031',25);
97 • INSERT INTO site3.Stock values (22,'1032',45);
98 • INSERT INTO site3.Stock values (23,'1033',66);
99 • INSERT INTO site3.Stock values (24,'1034',71);
100
101 • SELECT * FROM site3.Stock;
102
103 • USE site3;
104
105 • SELECT sum(Qty) from site3.Stock;
106
107 • SELECT SUM(Qty) from site2.Stock;
108
109 • SELECT SUM(Qty) from site1.Stock;

```

Result Grid

sum(Qty)
207

Administration Schemas

Information

Schema: world

Object Info Session

SQLAdditions

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

Output

Action Output

#	Time	Action	Message	Duration / Fetch
76	21:12:24	INSERT INTO site3.Stock values (24,'1034',71)	1 row(s) affected	0.000 sec
77	21:12:54	SELECT * FROM site3.Stock LIMIT 0, 1000	4 row(s) returned	0.000 sec / 0.000 sec
78	21:15:07	USE site3	0 row(s) affected	0.000 sec
79	21:15:25	SELECT sum(Qty) from site3.Stock LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec



MySQL Workbench

Assignment No.7

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Navigator

SCHEMAS

Filter objects

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 world

Query 1

Limit to 1000 rows

```

96 • INSERT INTO site3.Stock values (21,'1031',25);
97 • INSERT INTO site3.Stock values (22,'1032',45);
98 • INSERT INTO site3.Stock values (23,'1033',66);
99 • INSERT INTO site3.Stock values (24,'1034',71);
100
101 • SELECT * FROM site3.Stock;
102
103 • USE site3;
104
105 • SELECT sum(Qty) from site3.Stock;
106
107 • SELECT SUM(Qty) from site2.Stock;
108
109 • SELECT SUM(Qty) from site1.Stock;

```

Result Grid

Filter Rows: Export: Wrap Cell Contents

SUM(Qty)

203

Administration Schemas

Information

Schema: world

Object Info Session

Output

#	Time	Action	Message	Duration / Fetch
77	21:12:54	SELECT * FROM site3.Stock LIMIT 0, 1000	4 row(s) returned	0.000 sec / 0.000 sec
78	21:15:07	USE site3	0 row(s) affected	0.000 sec
79	21:15:25	SELECT sum(Qty) from site3.Stock LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec
80	21:16:21	SELECT SUM(Qty) from site2.Stock LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

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Assignment No.7

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Navigator

SCHEMAS

Filter objects

sakila  
 sys  
 world

Query 1

Limit to 1000 rows

```

102
103 • USE site3;
104
105 • SELECT sum(Qty) from site3.Stock;
106
107 • SELECT SUM(Qty) from site2.Stock;
108
109 • SELECT SUM(Qty) from site1.Stock;
110
111 • USE site1;
112
113 • SELECT * from site3.Books;
114
115 • UPDATE site3.Books set Price='530' where ISBN='1032';

```

Result Grid

Filter Rows: Export: Wrap Cell Contents

SUM(Qty)

238

Administration Schemas

Information

Schema: world

Object Info Session

Output

#	Time	Action	Message	Duration / Fetch
78	21:15:07	USE site3	0 row(s) affected	0.000 sec
79	21:15:25	SELECT sum(Qty) from site3.Stock LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec
80	21:16:21	SELECT SUM(Qty) from site2.Stock LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec
81	21:16:37	SELECT SUM(Qty) from site1.Stock LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

**We are on site1 and we want to access the books on site2,site3.  
Now it is possible using distributed database:**

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Navigator

SCHEMAS

Filter objects

sakila  
 sys  
 world

Query 1

```

105 • SELECT sum(Qty) from site3.Stock;
106
107 • SELECT SUM(Qty) from site2.Stock;
108
109 • SELECT SUM(Qty) from site1.Stock;
110
111 • USE site1;
112
113 • SELECT * from site3.Books;
114
115 • UPDATE site3.Books set Price='530' where ISBN='1032';
116
117 • SELECT * from site3.Books;
118

```

Result Grid

ISBN	Author	Topic	TotalStock	Price
1031	Vahnu Khandekar	Yayati	20	400
1032	Bhalchandra Nemade	Kosala	56	550
1033	Vahvas Patil	Panipat	58	350
1034	Pu. L. Deshpande	Batatyachi Chaal	86	490
1035	Adhyu Godbole	Musafir	52	380
1036	Ranjit Desai	Shreeman Yogi	18	970

Books 13 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
80	21:16:21	SELECT SUM(Qty) from site2.Stock LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec
81	21:16:37	SELECT SUM(Qty) from site1.Stock LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec
82	21:19:57	USE site1	0 row(s) affected	0.000 sec
83	21:20:06	SELECT * from site3.Books LIMIT 0, 1000	6 row(s) returned	0.000 sec / 0.000 sec

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

MySQL Workbench  
Assignment No. 7

File Edit View Query Database Server Tools Scripting Help

Navigator

SCHEMAS

Filter objects

sakila  
 site3  
 site2  
 site1  
 sys  
 world

Query 1

```

111 • USE site1;
112
113 • SELECT * from site3.Books;
114
115 • UPDATE site3.Books SET Price=530 where ISBN='1032';
116
117 • SELECT * from site3.Books;
118
119 • USE site2;
120
121 • SELECT Storeno, Qty from site3.Stock where ISBN='1033';
122
123 • USE site2;
124

```

Result Grid

ISBN	Author	Topic	TotalStock	Price
1031	Vahnu Khandekar	Yayati	20	400
1032	Bhalchandra Nemade	Kosala	56	530
1033	Vahvas Patil	Panipat	58	350
1034	Pu. L. Deshpande	Batatyachi Chaal	86	490
1035	Adhyu Godbole	Musafir	52	380
1036	Ranjit Desai	Shreeman Yogi	18	970

Books 14 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
85	21:21:44	UPDATE site3.Books SET Price=530 where ISBN='1032'	Error Code: 1175. You are using safe update mode and you tried to update a table without a WHERE that uses ...	0.000 sec
86	21:24:56	UPDATE site3.Books SET Price=530 where ISBN='1032'	Error Code: 1175. You are using safe update mode and you tried to update a table without a WHERE that uses ...	0.000 sec
87	21:27:56	UPDATE site3.Books SET Price=530 where ISBN='1032'	1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0	0.015 sec
88	21:28:03	SELECT * from site3.Books LIMIT 0, 1000	6 row(s) returned	0.000 sec / 0.000 sec

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

From site2, we want to check the available copies of a particular book with ISBN number in the bookstore. According to the ISBN number in which fragment belongs, search in the respective database:

MySQL Workbench

Assignment No.7

File Edit View Query Database Server Tools Scripting Help

Navigator

Filter objects

SCHEMAS

- sakila
- site2
- Tables
- Views
- Stored Procedures
- Functions
- site1
- sys
- world

Query 1

```

114
115 • UPDATE site3.Books SET Price=530 where ISBN='1032';
116
117 • SELECT * from site3.Books;
118
119 • USE site2;
120
121 • SELECT Storeno, Qty from site3.Stock where ISBN='1033';
122
123 • USE site2;
124
125 • SELECT * FROM site1.Books
126 UNION
127 SELECT * FROM site2.Books

```

Result Grid

Storeno	Qty
23	66

Administration Schemas

Information

Schema: world

Object Info Session

SQLAdditions

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

Output

#	Time	Action	Message	Duration / Fetch
87	21:27:56	UPDATE site3.Books SET Price=530 where ISBN='1032'	1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0	0.015 sec
88	21:28:03	SELECT * from site3.Books LIMIT 0, 1000	6 row(s) returned	0.000 sec / 0.000 sec
89	21:32:06	USE site2	0 row(s) affected	0.000 sec
90	21:32:13	SELECT Storeno, Qty from site3.Stock where ISBN='1033' LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec

**Get the list of all the books available in the bookstore from any side:**

MySQL Workbench

Assignment No.7

File Edit View Query Database Server Tools Scripting Help

Navigator

Filter objects

SCHEMAS

- sakila
- site3
- site2
- Tables
- Views
- Stored Procedures
- Functions
- site1
- sys
- world

Query 1

```

123 • USE site2;
124
125 • SELECT * FROM site1.Books
126 UNION
127 SELECT * FROM site2.Books
128 UNION
129 SELECT * FROM site3.Books;
130

```

Result Grid

ISBN	Author	Topic	TotalStock	Price
1001	A.P.J. Abdul Kalam	Wings Of Fire	20	500
1002	Shivaji Sawant	Muhunjay	30	200
1003	Shivaji Sawant	Chhava	50	400
1004	Pu. L. Deshpande	Pulkit	10	350
1005	Pu. L. Deshpande	Purachundi	25	500
1006	Sane Guruj	Shyanchi Aai	30	400
1021	Shivaji Sawant	Yugandhar	40	200
1022	Ranjeet Desai	Swami	38	600
1023	Vahvas Patil	Mahanayak	75	450
1024	Daya Pawar	Baluta	15	490
1025	Lauman Mane	Upura	65	350
1026	Sudha Murty	Aayushyadh...	30	480
1031	Vashu Khandekar	Yaveti	20	400
1032	Bhalchandra Nem...	Kosala	56	530
1033	Vahvas Patil	Panipat	58	350
1034	Pu. L. Deshpande	Batatyachi C...	86	490
1035	Achyut Godbole	Musafir	52	580
1036	Ranjit Desai	Shreeman Yogi	18	970

Administration Schemas

Information

Schema: world

Object Info Session

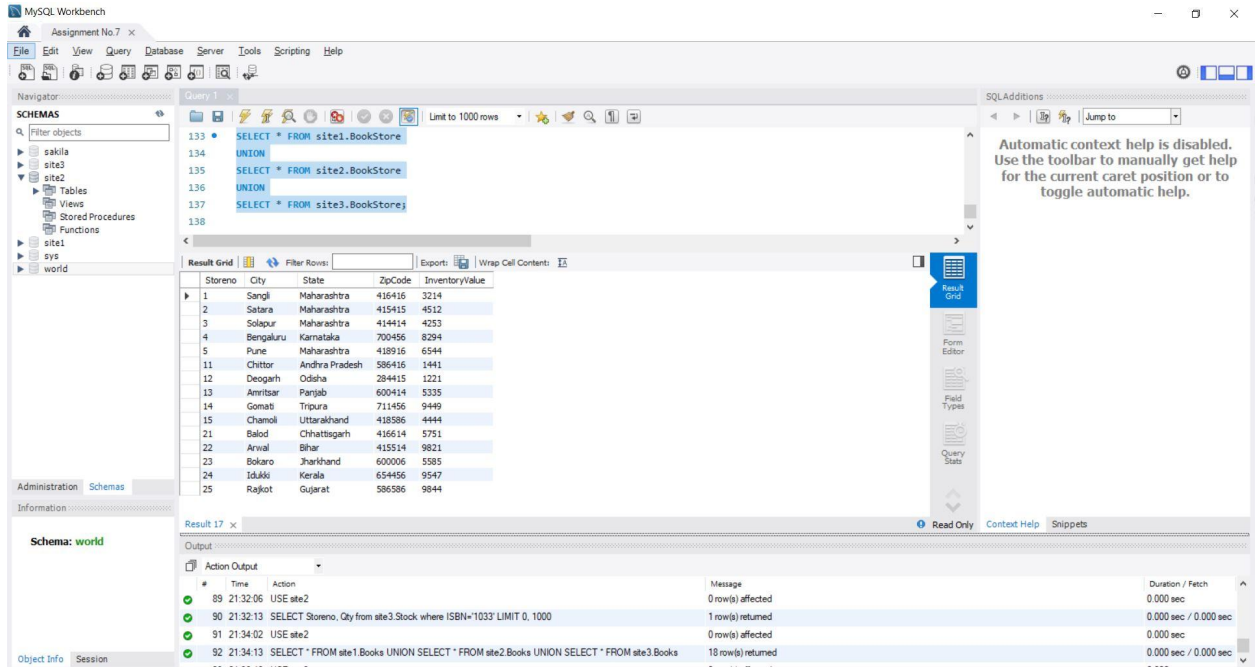
SQLAdditions

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

Output

#	Time	Action	Message	Duration / Fetch
89	21:32:06	USE site2	0 row(s) affected	0.000 sec

**Get the list of all the stores from any side:**



## ● Conclusion:

The distributed database has been implemented for bookstores.

## ● References:

1. <https://www.google.com/search?q=distributed+database&oq=dis&aqs=chrome.0.69i59j69i57j35i39j0l2j69i60l3.1917j0j7&sourceid=chrome&ie=UTF-8>
2. <https://www.geeksforgeeks.org/distributed-database-system/>
3. <https://www.youtube.com/watch?v=aoMOMsx5Zyw>