Chapter 8

Conclusion

8.1 Introduction

This chapter illustrates the results which is generated from the solution and the further improvements can be done to the solution. As an example, by using this solution, we can simply migrate schema and data of a MySQL database to PostgreSQL or MS SQL Server or Oracle databases with the integrity constrains. The integrity constraints are mainly primary keys and foreign keys. The generated outputs are shown in the results section of this chapter. List of additional new features has been identified and these new features are listed in the further work section in this chapter.

8.2 Results

Figure 8.1 shows SAKILA database in MySQL and this database has 16 tables with data. As an example, Primary keys and foreign keys of rental table are also highlighted in the Figure 8.1. This database uses as an input for the application and it migrates from this MySQL database to PostgreSQL, MS SQL Server and Oracle databases.

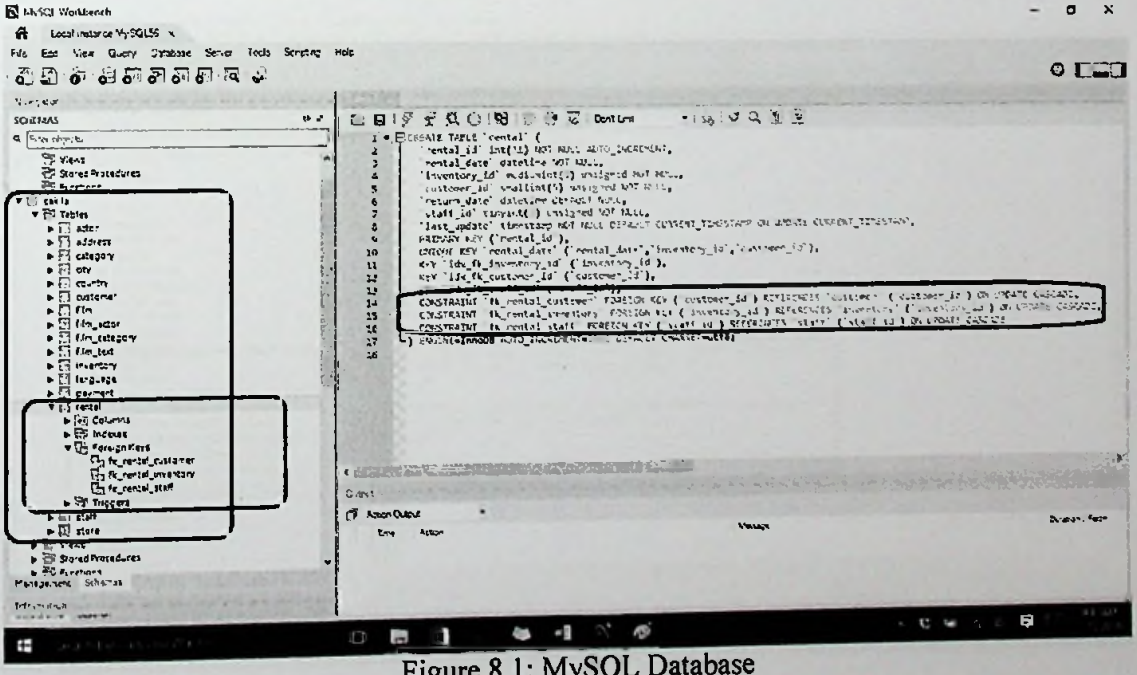

Figure 8.1: MySQL Database

Figure 8.2 illustrates the migrated PostgreSQL database with all 16 tables and it also shows the rental table's integrity constraints.

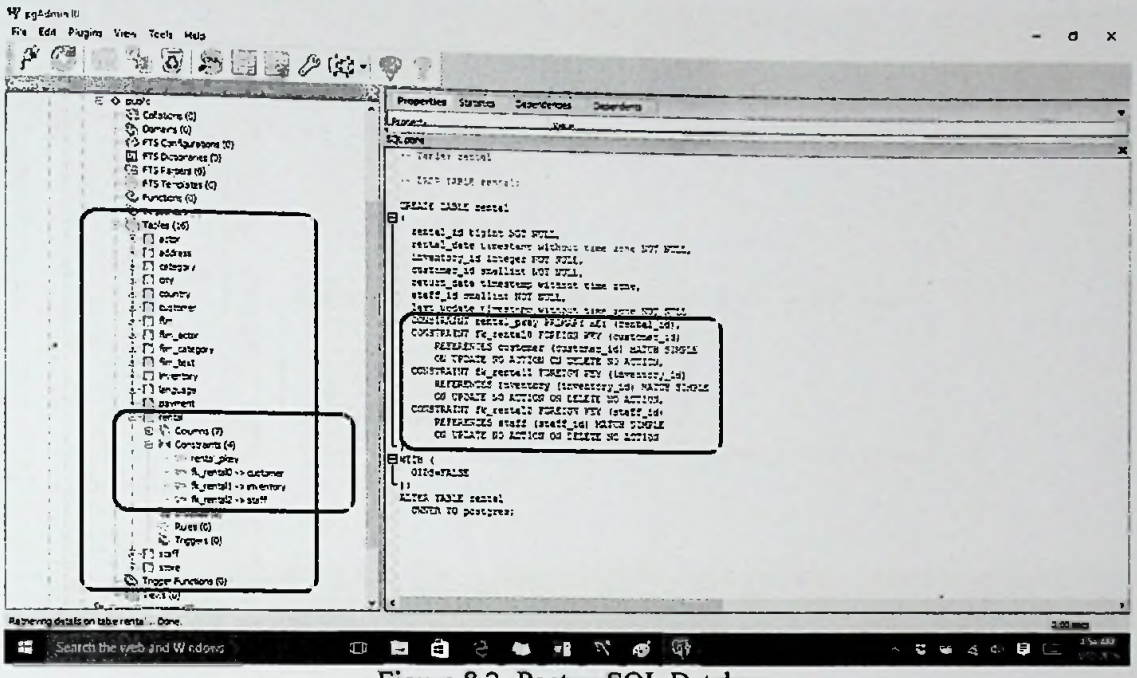

Figure 8.2: PostgreSQL Database

Figure 8.3 illustrates the migrated MS SQL Server database with all 16 tables and it also shows the rental table's integrity constraints.

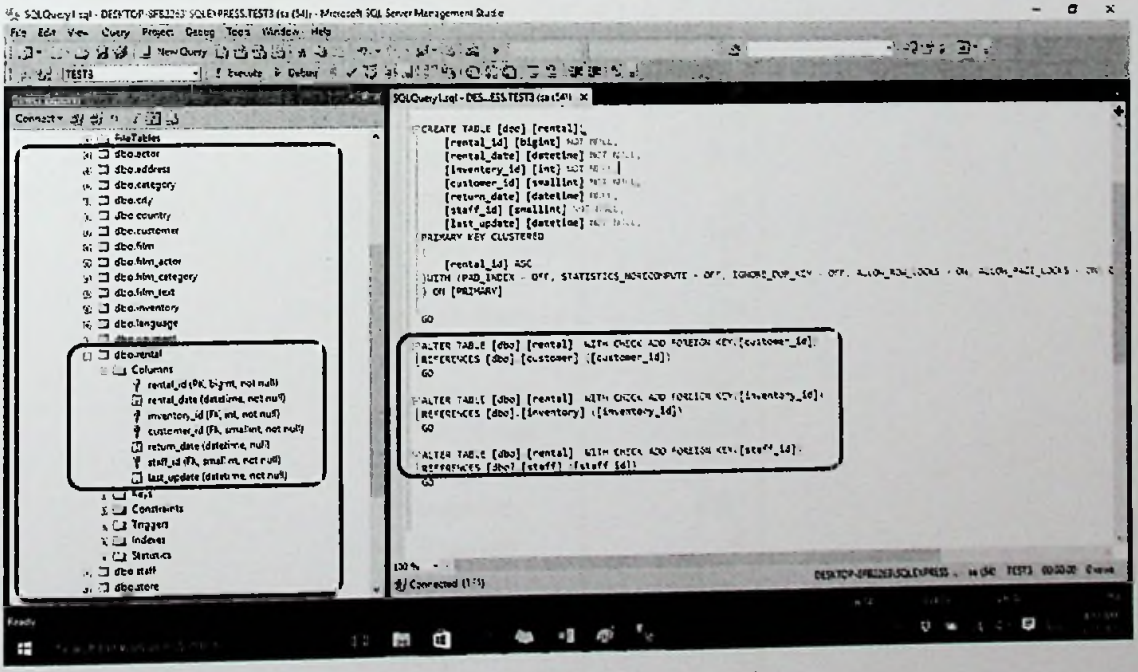

Figure 8.3: MS SQL Server Database

Figure 8.4 illustrates the migrated Oracle database with all 16 tables and it also shows the rental table's integrity constraints.

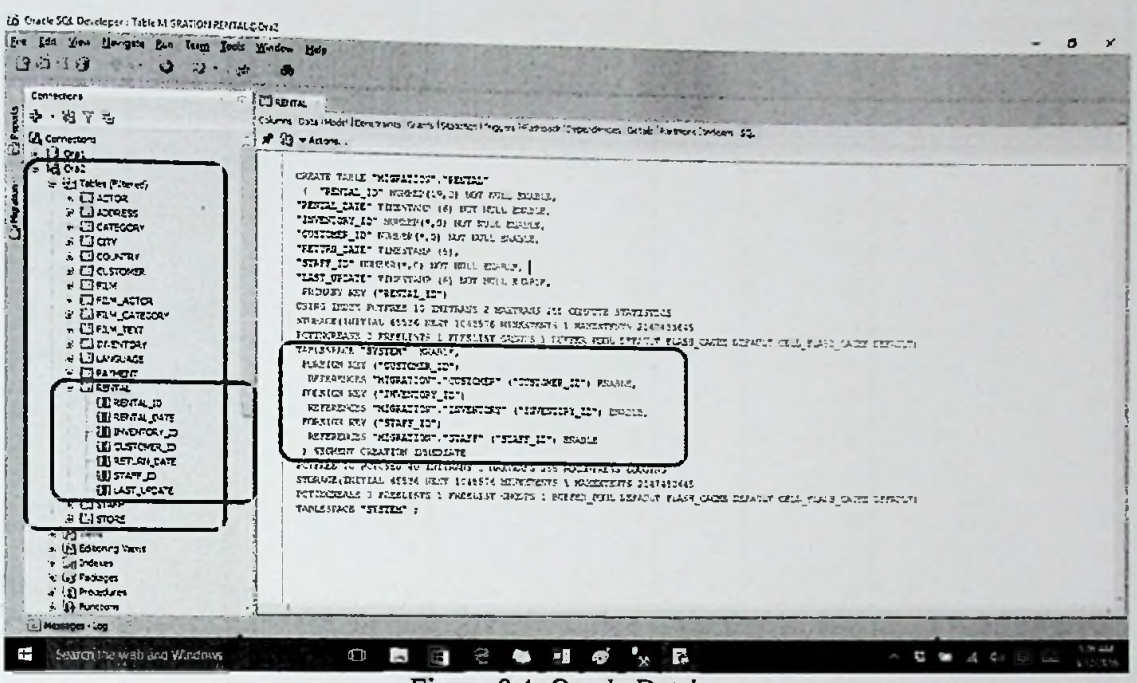

Figure 8.4: Oracle Database

Table 8.1 lists row count of each table in SAKILA database in MySQL.

```
SELECT table_name, TABLE_ROWS FROM INFORMATION_SCHEMA.TABLES
WHERE TABLE_SCHEMA = 'sakila';
```

Table Name	Row Count
actor	200
address	603
category	16
city	600
country	109
customer	599
film	1000
film_actor	5462
film_category	1000
film_text	1000
inventory	4581
language	6
payment	1000
rental	999
staff	2
store	2

Table 8.1: Row count of each table

Tables	MySQL to PostgreSQL Time(Seconds)	PostgreSQL to MS SQL Server Time(Seconds)	MS SQL Server to Oracle Time(Seconds)	Oracle to MySQL Time(Seconds)
film_category	3	3	3	3
country	0	0	0	0
address	4	4	5	4
city	2	2	2	2
film_actor	16	16	17	17
staff	0	0	0	0
language	0	0	0	1
store	0	0	0	1
film	9	10	11	12
inventory	17	16	17	17
rental	5	6	6	7
actor	1	1	1	1
film_text	3	5	4	6
payment	4	5	6	5
category	0	0	0	0
customer	3	4	4	4
	67	72	76	80

Table 8.2: Time taken to migrate data for each table with respect to different databases

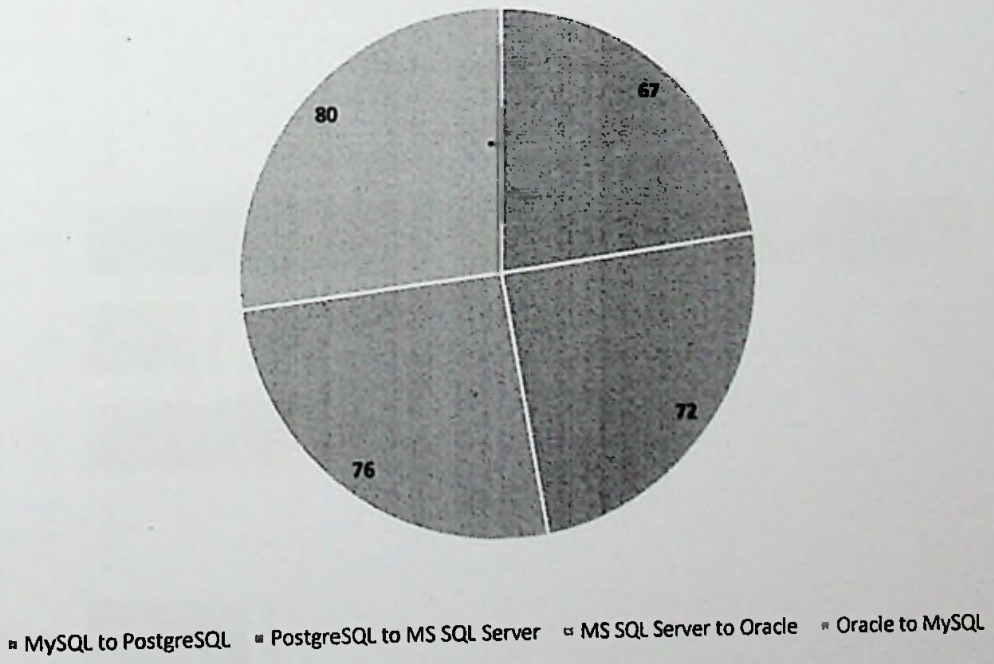

Figure 8.5: Total time (Seconds) taken to migrate data

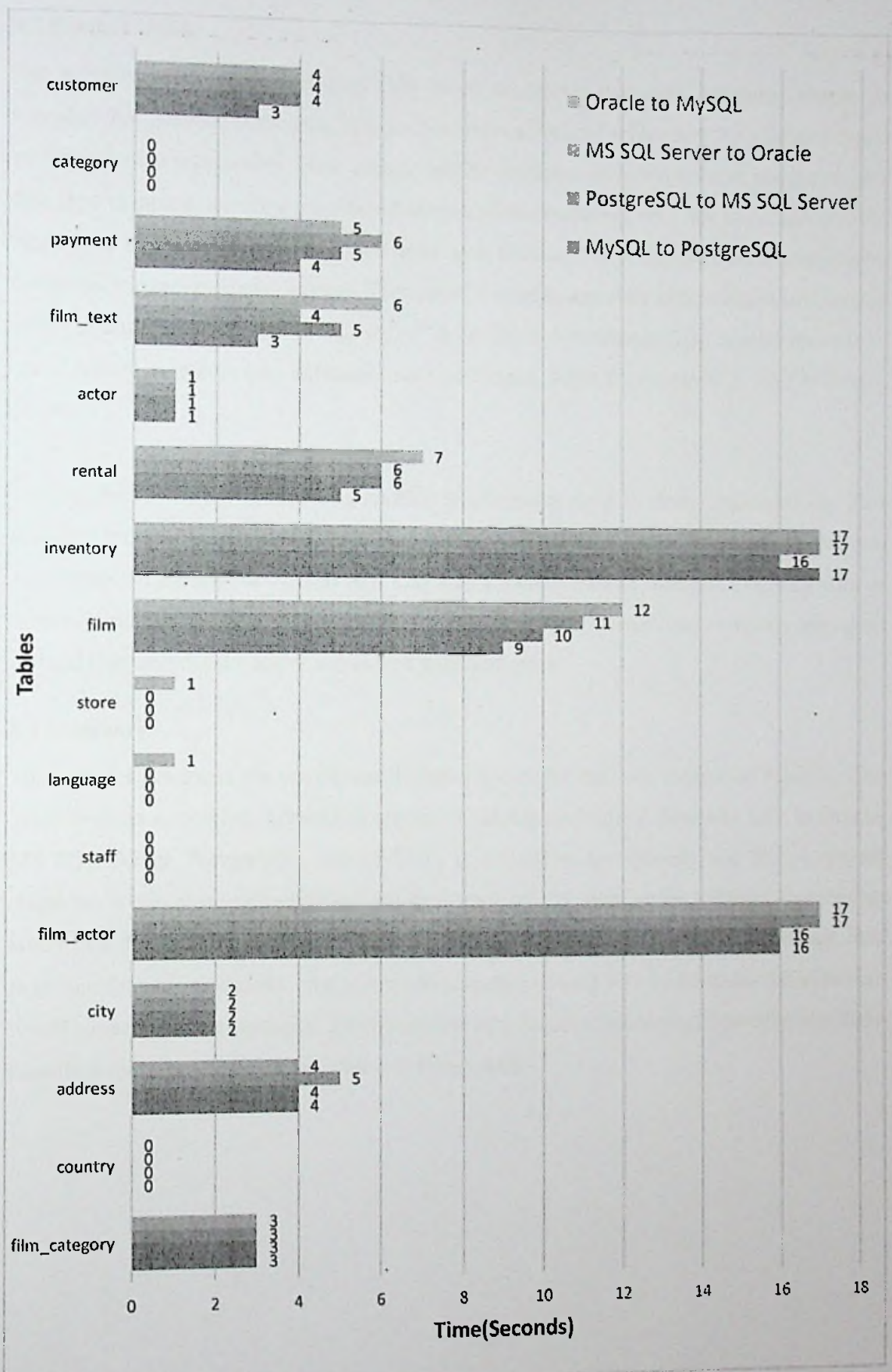

Figure 8.6: Time taken to migrate data for each table with respect to different databases

8.3 Further Work

The solution will migrate and copy data based on criteria that could be either simple or complex. For instance if the criteria is set for tables all related tables with be migrated based on the specified relationship. New options will be included, table and column name changes, data type mapping, selecting specific columns, column mappings etc., can be included while migration. The solution will be added more new features like migrating stored procedures, functions, triggers and table indexes. There will be another important option which will backup tables in target database before migration. The solution will migrate SQL queries specific to one database language into databases such as Oracle, MySQL, PostgreSQL and MS SQL Server.

Moving data from one database to another is a frequent need in many organizations. This includes moving departmental data into the central database and development data into production. In addition to transfer new data into the table without disrupting existing data or creating loss of data. This software thereby offers a straight forward and complete migration method that includes the above mentioned tasks and more.

8.4 Summary

This chapter described the results and future work of the database migration solution. The solution gives a complete database migration of schema and data of databases such as Oracle, MS SQL Server, PostgreSQL, and MySQL. It is flexible, user-friendly and does a smooth migration while ensuring reliability and data integrity. In addition the software includes an automated database migration tool which handles complex schema and organizational data from one database to another. The automation handles at least 90% of the tasks that otherwise would have to be done manually. There are more new features that we have identified and these identified features will be implemented as future work.

Chapter 9

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