Project Case	
ISYS6169 | ISYS6279 | ISYS6280 Database Systems	BINUS UNIVERSITY Software Laboratory Center
Information System	**E212-ISYS6169-BR01-00**
Valid on *Even Semester Year 2020/2021*	**Revision 00**

1. Seluruh kelompok tidak diperkenankan untuk:

   The whole group is not allowed to:

   - Melihat sebagian atau seluruh proyek kelompok lain,

     Seeing a part or the whole project from another groups
   - Menyadur sebagian maupun seluruh proyek dari buku,

     Adapted a part or the whole project from the book
   - Mendownload sebagian maupun seluruh proyek dari internet,

     Downloading a part or the whole project from the internet,
   - Mengerjakan soal yang tidak sesuai dengan tema yang ada di soal proyek,

     Working with another theme which is not in accordance with the existing theme in the matter of the project,
   - Melakukan tindakan kecurangan lainnya,

     Committing other dishonest actions,
   - Secara sengaja maupun tidak sengaja melakukan segala tindakan kelalaian yang menyebabkan hasil karyanya berhasil dicontek oleh orang lain / kelompok lain.

     Accidentally or intentionally conduct any failure action that cause the results of the project was copied by someone else / other groups.

2. Jika kelompok terbukti melakukan tindakan seperti yang dijelaskan butir 1 di atas, maka **nilai kelompok** yang melakukan kecurangan (menyontek maupun dicontek) akan di – **NOL** – kan.

   If the group is proved to the actions described in point 1 above, the score of the group which committed dishonest acts (cheating or being cheated) will be "Zero"

3. Perhatikan jadwal pengumpulan proyek, segala jenis pengumpulan proyek di luar jadwal tidak dilayani.

   Pay attention to the submission schedule for the project, all kinds of submission outside the project schedule will not be accepted

4. Bila Anda tidak membaca peraturan ini, maka Anda dianggap telah membaca dan menyetujuinya
   If you have missed to read these regulations, so you are considered to have read and agreed on it

5. Persentase penilaiaan untuk matakuliah ini adalah sebagai berikut:
   Marking percentage for this subject is described as follows:

Tugas Mandiri *Assignment*	**Proyek** *Project*	**UAP** *Final Exam*
30%	30%	40%

6. Software yang digunakan pada matakuliah ini adalah sebagai berikut:
   Software will be used in this subject are described as follows:

Software *Software*
SQL Server Management Studio 18.5.1 SQL Server Developer 2019 Microsoft Office 365 Visual Paradigm Community Edition 16.1

7. Ekstensi file yang harus disertakan dalam pengumpulan tugas mandiri, proyek, dan uap untuk matakuliah ini adalah sebagai berikut:
   File extensions should be included in assignment project and final exam collection for this subject are described as follows:

Tugas Mandiri *Assignment*	**Proyek** *Project*	**UAP** *Final Exam*
SQL	SQL, VPP, Image Files (JPG / PNG)	SQL

Soal
Case

Cloud BRoker

Cloud BRoker is a company which helps customers to buy their own servers and databases and host them on their chosen cloud provider.

Before purchasing a server or database, customers must first register their self on **Cloud BRoker**'s website and follow some procedures, those are:

- Customer must first register themself and fill out their personal information such as name, email, address, date of birth, gender, phone number, and password. Every customer has an identification number with the following format:

"CUXXX" X => number between 0 – 9

- After registering, customer's account is created with money balance of 0.
- Every cloud provider has complete information like name, email, region, website URL, and an identification number with the following format:

"CPXXX" X => number between 0 – 9

- Every **transaction** made by customer has all information about the customer, cloud provider, purchased database and server, **transaction** history to keep track of **transaction** payment date, and an identification number with the following format:

"TRXXX" X => number between 0 – 9

- There must be a server or database bought by the customer in every transactions.
- Every database has complete information like DBMS software, storage, price, and an identification number with the following format:

"DBXXX" X => number between 0 – 9

- Every database storage is in Gigabyte (GB).
- Every DBMS software has complete information like name, website URL, and identification number with the following format:

"DSXXX" X => number between 0 – 9

- Every server has complete information like name, memory, price, storage, processor, operating system, and an identification number with the following format:

"SVXXX" X => number between 0 – 9

- Every server storage is in Gigabyte (GB).
- Every processor has complete information like name, how many cores it has, base clock speed, boost clock speed, and an identification number with the following format:

"PRXXX" X => number between 0 – 9

- Every operating system has complete information like name, family, price, and identification number with the following format:

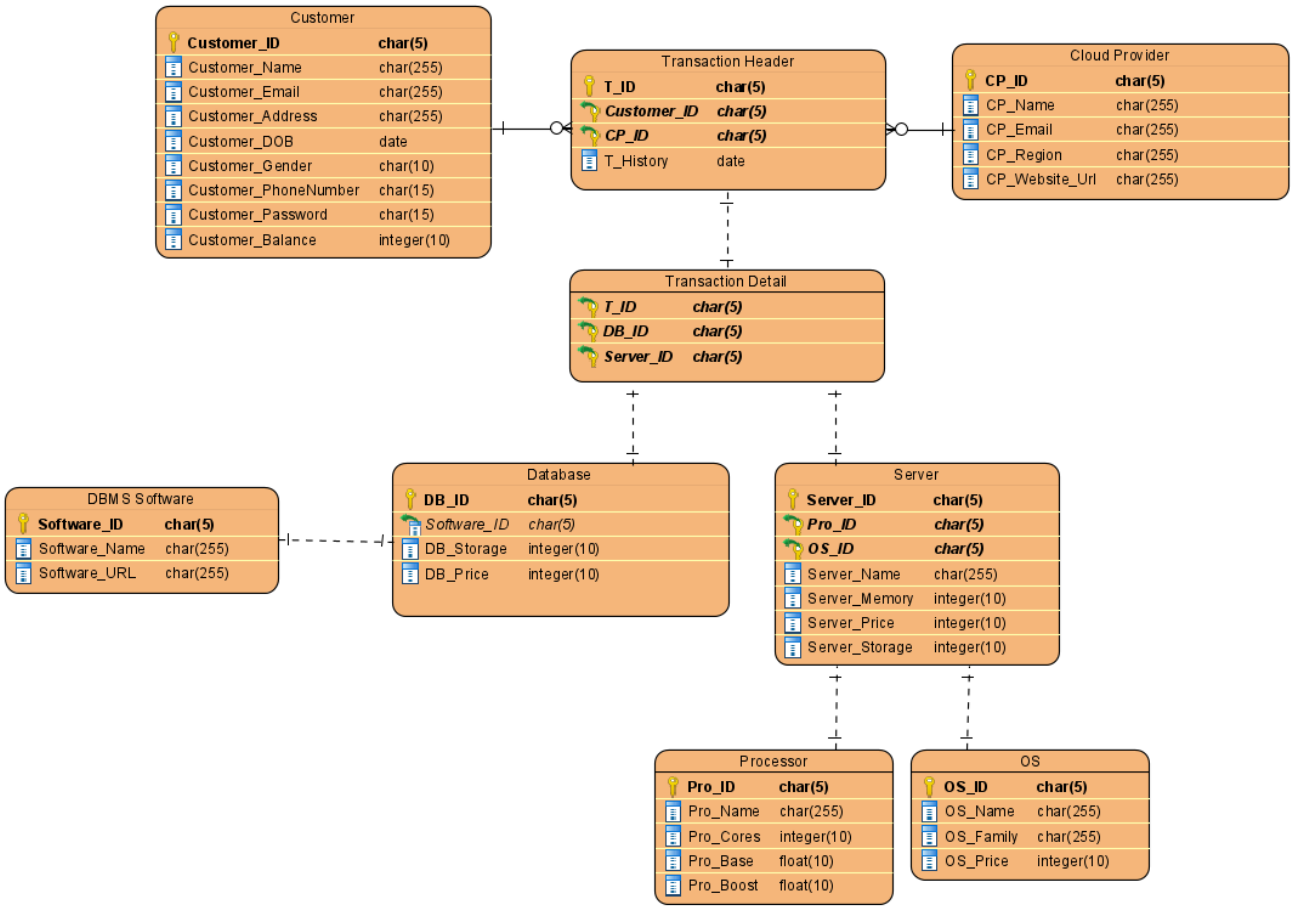
"OSXXX" X => number between 0 – 9

Notes

- Customer gender must either be "Male" or "Female" (without quote).
- Customer name must have at least 2 words.
- Customer phone number length must be precisely 12 characters.
- Operating system price must be between 500000 and 1500000.
- Server memory must be any number that is divisible by 2 (even numbers).
- Server price must be between 10000 and 300000.
- Database storage must be more than 0.

In order to maintain **transactions**, you, as a database administrator, are tasked to create a database system to store data and maintain **transactions**. The tasks that you must do are:

a. Create Entity Relationship Diagram to maintain **transactions**.



b. Create a database system using DDL syntax that is relevant with **transactions**.

c. Create query using DML syntax to fill the tables in the database system with data based on the following conditions:

- **Master** table must be filled with more than or equals 15 data.
- **Transaction** table must be filled with more than or equals 15 data.
- **Transaction detail** table must be filled with more than or equals 25 data.

d. To support management process in **Cloud BRoker**, you are tasked to provide some query that produces important data. The query requirements are:

1. Display customer name and Cloud Providers Count (obtained from the total of purchased cloud providers by the customer) for every customer whose name contains the letter “e” and the birthdate day is even number.

2. Display server name and Total Price (obtained from the sum of server price, operating system price, and database price with “Rp” added at the front, then replacing “.00” with “,-”, for every server with memory more than 2 and database storage more than 1.

3. Display Initial (obtained from the first letter from the first word of customer name and first letter from the second word of customer name), Database Price (obtained from the total of all databases price which was purchased by the customer), and Transaction Count (obtained from the total of transactions made by the customer) for every database with storage more than 2 and the customer gender is female.

4. Display Cloud Company (obtained from the first word of cloud provider name and " Company" added at the end), Total Transaction (obtained from the total of transactions which include the cloud provider), and Customer Average Account Balance (obtained from the average of customer account balance) for every cloud provider name which contains the word "Cloud" and Total Transaction more than 1.

5. Display Server Initial (obtained from the first five letters of server name, combined with "-", and combined with the last three letters of server ID in uppercased form), processor name, and server storage for every server storage that is more than maximum storage of all databases and processor cores at least 4.
6. Display DBMS software name, database price, database storage with "GB" added at the back, and DBMS software website URL with "https://" removed for every database with price above the average price of all servers and DBMS software name contains "DB".

7. Display Server Code (obtained from the first five letters of server name, combined with "-", combined with the last two letters of server ID, combined with "-", and combined with database storage, all in uppercase), Storage (obtained from database storage with "GB" added at the end), and Price (obtained from database price with "Rp" added at the front) for every server with price above the maximum price from all operating systems, and server storage above the average storage of all databases.

8. Display Database Code (obtained from the last three letters from database ID, combined with "-", combined with the last three letters from DBMS software ID, combined with "-", and combined with database storage with "GB" added at the end) for every database with price between the minimum price of all servers and the average price of all operating systems, and DBMS software ID either "DS006" or "DS007".

9. Create a view named as “Affordable Server View” to display server name, processor name, operating system name, and server memory with “GB” added at the end for every server with price is between the cheapest price of all servers and average price of all servers, and memory is at least 4.

10. Create a view named as “Popular Cheap Databases View” to display database name, website URL, and storage with “GB” added at the end, and Transaction Count (obtained from the total of transactions which include the database) for every database with price equals or below the average price of all databases and Transaction Count more than 2.

File that must be collected:

1. Entity Relationship Diagram (.vsdx, .png)
2. Query to create the database system. (.sql)
3. Query to insert data into tables. (.sql)
4. Query to simulate the transactions processes. (.sql)
5. Query to answer the 10 cases. (.sql)

Here are the rules that you must follow to create your project:

1. Use appropriate software for this subject based on **Sistem Praktikum** that can be downloaded from Binusmaya
2. Use the techniques taught during practicum
3. Collect appropriate files for this subject based on **Sistem Praktikum** that can be downloaded from Binusmaya
4. Include the other files that can support your project, such as:
   - All files in your project
   - Other files (image, audio, video, etc.) used in your project
   - *.DOC file (documentation of your project) that contains the reference links of additional files (image, audio, video, etc.) used in your project