# Assignment 1

# Basic design and implement of database system

**Purpose:**

The purpose of this assignment is getting practical experience of requirement analysis, database design, and implementing database system in MS SQL Server 2005. In this assignment, you are going to design a simple database system for Xiaoshan International Airport. You can find more detail in the following specification. And beside the database design, you also must to answer some questions.

**Requirement Specification:**

Xiaoshan International Airport wants to update its Electronic Passenger's Luggage Management System (EPLMS). Your team is assigned to this job. At very beginning of building this system, you should analyze the requirement and design a database system for this system.
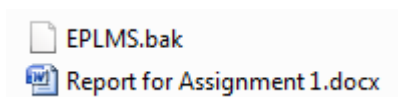
Xiaoshan International Airport wants this new Electronic Passenger's Luggage Management System (EPLMS) should store following data:

1. Passenger information. It must include passenger's name, personal ID, gender, age, etc.
2. Flight information. It must include flight number, airline company, departure time, arrive time, departure city, destination, passenger number, airplane model etc.
3. Luggage information. It must include luggage ID, weight, owner, and flight NO. etc.

**Delivery:**

For finishing this assignment, you have to finish following four tasks. <u>You should deliver a written report which contains answers of questions of task 1, the database design diagram of task 2, and the SQL query sentence of task 4. Besides that, you also should deliver MS SQL Server backup file contains the database you designed for EPLMS. The tasks and their marks are listed in following.</u>

Your report package should includes a backup file and a written report. Like following picture:

- EPLMS.bak
- Report for Assignment 1.docx

1. You must answer following questions. **(20%)**
   - What are basic steps for database application development? And explain what the purposes of these steps.
   - Name two models for database application. And give the difference between these two models.
   - In which situation we need database system for applications?
   - Which aspects we should consider carefully when we design tables for a database?

2. Database design diagram. This diagram should include all tables you designed for this

database system, and primary – foreign key pairs between tables. And you must specify columns' names, columns' data types in this diagram. You can create the diagram by referring the diagram used in laboratory 2. **(30%)**
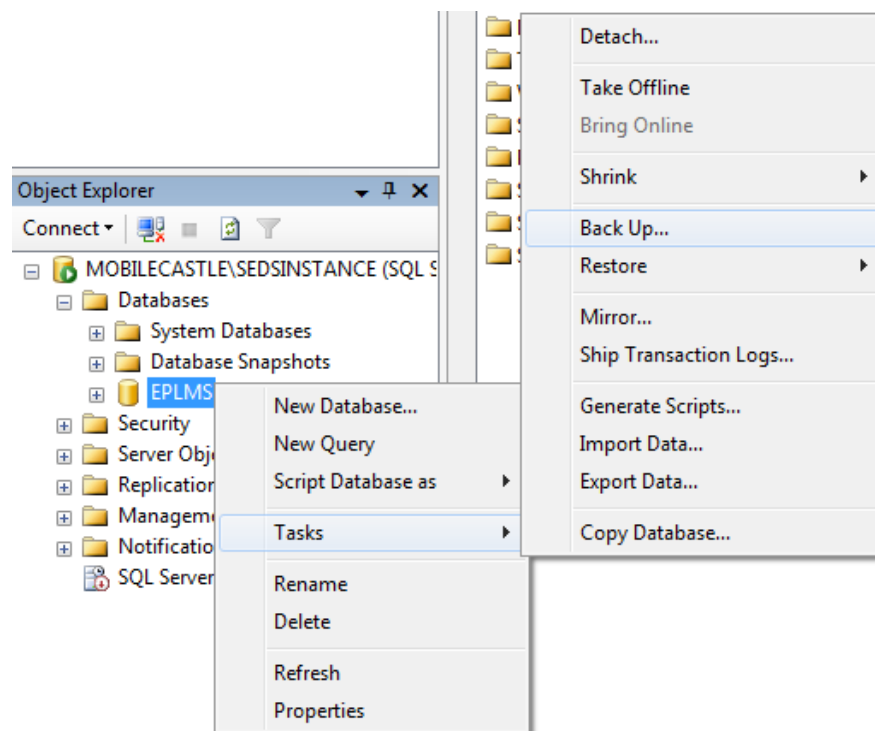
3. SQL Server database file. After you finish the design part, you must implement your database to a practical SQL Server 2005 database. And you should fill each table with at least 10 records. **(20%)**

4. Query statement. Please create one query statement for each operation. **(30%)**
   - Insert a new passage record
   - Insert a new flight record
   - Insert a new luggage record
   - Modify a passage's name
   - Delete a flight record.
   - Create a multiple table joint query.

**How to deliver your report?**

After you team finishing this assignment, package the written report and backup file of your database to a zip or rar file (you can find how to back up database in appendix). Then attach this package to your email and email to dat602@gmail.com. The subject of your report email should be like this **"Assignment 1. TEAM: Member1's name, Member2's name… "**, the subject should include all team members' names.
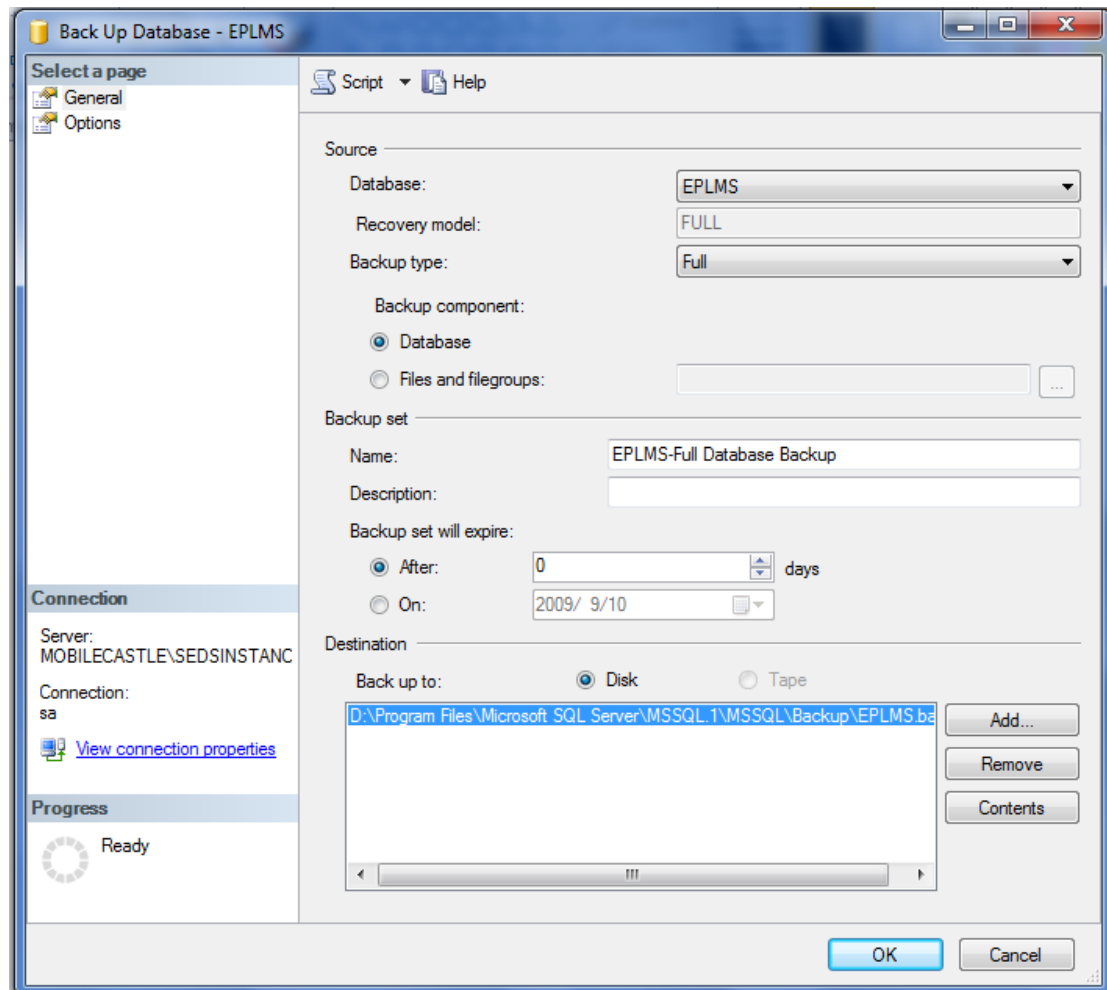
**Appendix 1: how to export your database from SQL Server 2005?**

Step 1: back up your database EPLMS. Right click your EPLMS database; choose Tasks -> Back Up operation.

Step 2: click 'OK' for back up.

**NOTE: DON'T ADD ANY MORE BACK UP FILES IN THIS STEP!!! JUST THE DEFAULT BACK UP FILE WILL BE FINE!!!**



Step 3: Go to the directory that you exported the backup file, the default directory should be "X:\Program Files\Microsoft SQL Server\MSSQL.1\MSSQL\Backup\EPLMS" (X means the hard driver you installed the SQL Server 2005). Find the backup file.