Seminar 5

This is the start of the database coding section of the module. In order to do the subsequent tasks you need to carry out this weeks tasks.

The ffdb.sql file on elp will create and populate the data set. Instructions to run the script are on elp.

The tables are described as follows:

|  |  |
| --- | --- |
| Table | Overview of table |
| Job | A link table, it contains the id for a job type and its description. |
| Job\_team | This table will contain a list of all the team members who are allocated to a job/contract |
| Consultant | The details of the consultant |
| Employer | The person who takes out the contract |
| Contract | An overview of the contract or job, this table will include a reference to the main consultant who will act as a team leader if a team is involved, if a team is used the team table will link to this table |
| Charge\_sheet | This is used for the invoicing the jobs, it included the fees for job and its associated expenses |
| Job\_expenses | The expenses which are associated with a job and also employee claiming the expense |
| Expense\_cat | This is a link table and is used to categorise the expenses claimed |

You need to create a data dictionary for the data. For each of table complete the following details:

Table: Job

|  |  |  |  |
| --- | --- | --- | --- |
| Attribute Name | Data type | Size | Constraints/comments |
| Job\_id | Number | 3 | PK |
| Job\_desc | Varchar2 | 15 |  |

Table: Consultant

|  |  |  |  |
| --- | --- | --- | --- |
| Attribute Name | Data type | Size | Constraints/comments |
| Consultant\_fname | Varchar2 | 20 |  |
| Consultant\_sname | Varchar2 | 20 |  |
| Consultant\_id | Number | 3 | PK |
| Consultant\_town | Varchar2 | 15 |  |
| Consultant\_job | Number | 3 | References job |
| Consultant\_status | Varchar2 | 20 | Default active |

|  |  |  |  |
| --- | --- | --- | --- |
| Attribute Name | Data type | Size | Constraints/comments |
| Emp\_ID | Number | 3 | PK |
| Emp\_name | Varchar2 | 30 |  |
| Emp\_addr1 | Varchar2 | 30 |  |
| Emp\_addr2 | Varchar2 | 30 |  |
| Emp\_priority | Number | 1 | Default 3  Between 0 and 9 |

Table: Employer

Table: Contract

|  |  |  |  |
| --- | --- | --- | --- |
| Attribute Name | Data type | Size | Constraints/comments |
| contract\_id | Number | 3 | PK |
| contract\_client | Number | 3 | FK references employer |
| contract\_lead | Number | 3 | FK references Consultant |
| Contract\_job | Number | 3 | FK references job |
| contract\_start | Date |  |  |
| contract\_end | Date |  |  |
| contract\_updated | Date |  | Default sysdate |
| contract\_comment | Varchar2 | 50 |  |

Table: job\_team

|  |  |  |  |
| --- | --- | --- | --- |
| Attribute Name | Data type | Size | Constraints/comments |
| Team\_id | Number | 3 | PK |
| Team\_job | Number | 3 | Team\_job references contract |
| Team\_member | Number | 3 | Team\_cons references consultant |

Table: Charge\_Sheet

|  |  |  |  |
| --- | --- | --- | --- |
| Attribute Name | Data type | Size | Constraints/comments |
| Charge\_id | Number | 5 | PK |
| Charge\_job | Number | 3 |  |
| Charge\_fee | Number | 10 |  |
| Charge\_expenses | Number | 10 |  |

Table: Expense\_cat

|  |  |  |  |
| --- | --- | --- | --- |
| Attribute Name | Data type | Size | Constraints/comments |
| Cat\_id | Number | 2 | PK |
| Cat\_desc | Varchar2 | 20 |  |

Table: Job\_expenses

|  |  |  |  |
| --- | --- | --- | --- |
| Attribute Name | Data type | Size | Constraints/comments |
| Expense\_id | Number | 5 | PK |
| Expense\_job | Number | 3 | FK References contract |
| Expense\_type | Number | 3 | FK references cat |
| Expense\_value | Number | 10 |  |
| Expense\_submitted | Date |  |  |
| Expense\_approves | Date |  |  |
| Expense\_consultant | Number | 3 | FK references consultant |

In order to link the tables you need to identify the relationships between the tables. These are the foreign keys. Each table will relate to another by a FK, they will have the same data type and size but not name for example, the consultant\_job attribute maps onto the job\_id attribute.

Identify the FK between the tables and clearly indicate on the data dictionary what the FKs are, you will need this to join the data tables

Once you have completed the preparation asks (ran script and generated the DD) write the SQL to do the following:

* List all the consultants who are still active (note, in a where clause, where a string match is used this is case sensitive)
* List all the employers
* List all the jobs

Expansion queries (f you are comfortable with SQL attempt the following using the joins which will be covered next week)

* List the names of the consultants who are allocated the job UNDEFINED
* Which jobs are still contracted by SOLDIER
* List all the expense claims made by Cloud and the employer they are associated with